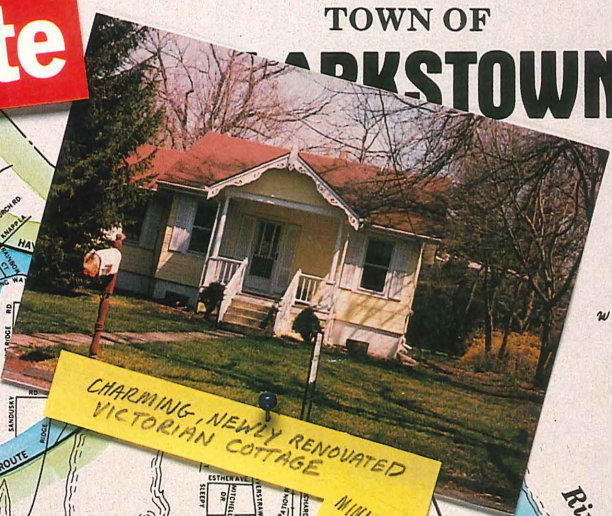


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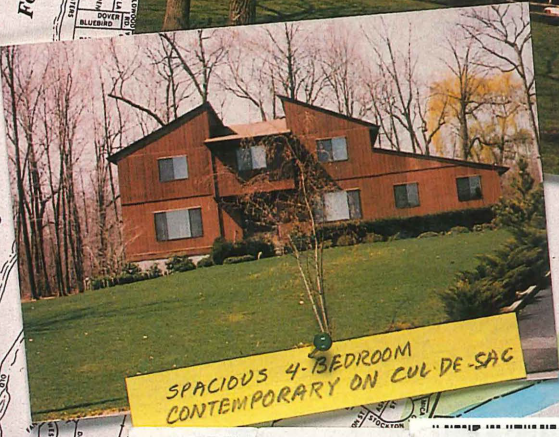
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Selling Real Estate From Home



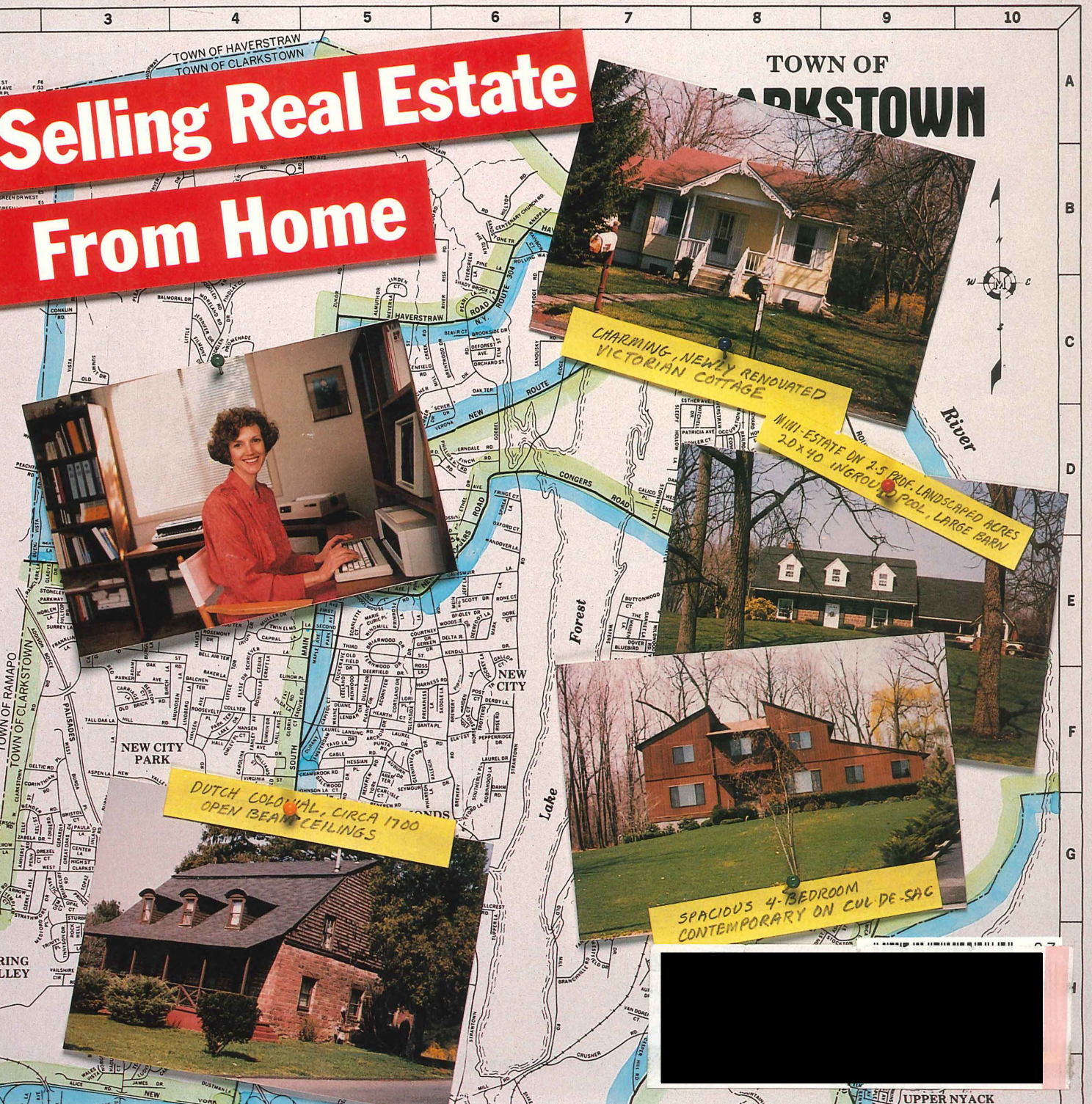
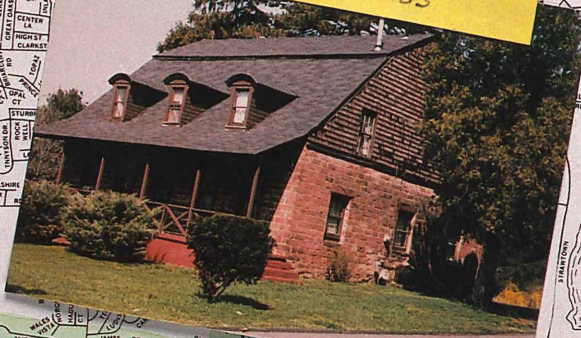
CHARMING-NEWLY RENOVATED
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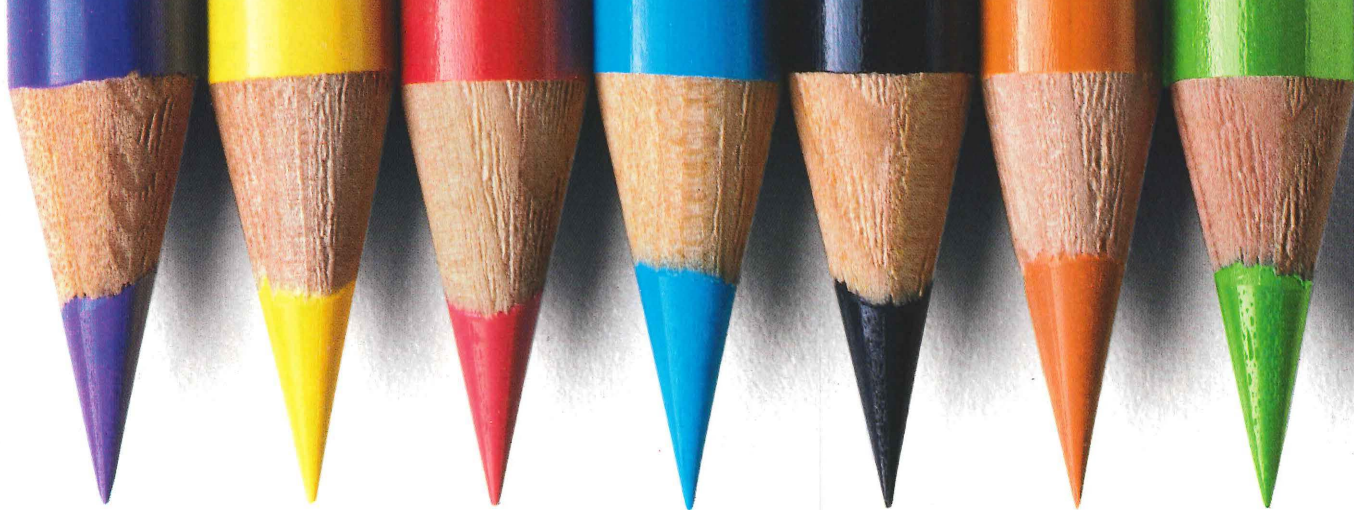
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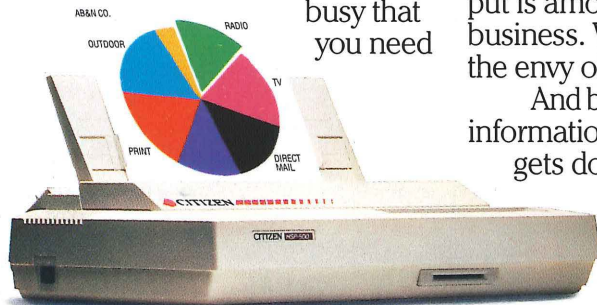
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You might not need it now. But years ago, most people would've thought their black and white TVs were just fine, too. Imagine back then being able to convert to a color set so easily.

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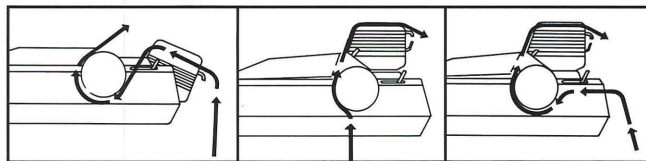
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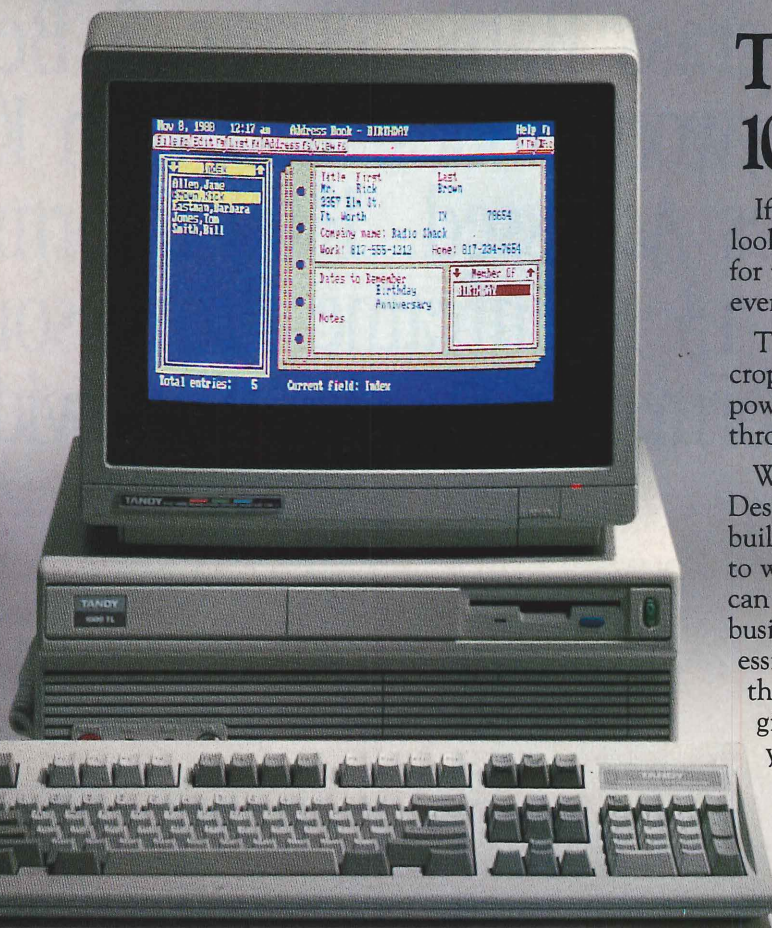
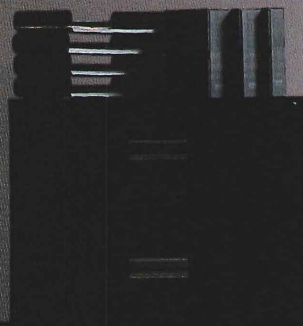
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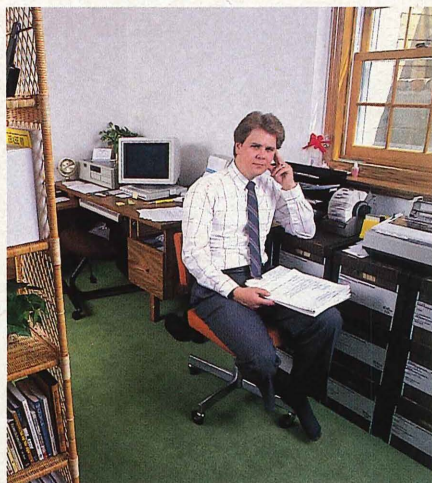
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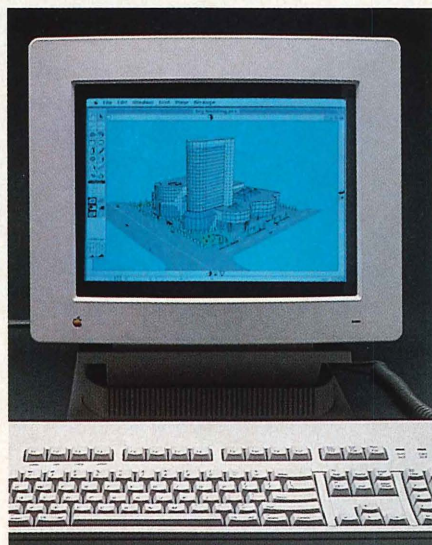
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Page 48



Page 52

COVER COLLAGE PHOTOGRAPHED BY DAVID LUBARSKY;
PORTRAIT PHOTOGRAPHED BY PAM PRICE;
HOMES PHOTOGRAPHED BY SUSAN CECI

FEATURES

COVER STORY

Bringing Real-Estate Profits Home

Page 31

Cashing in on the real-estate market from your home can yield high profits for a relatively low investment. Here, HOME-OFFICE COMPUTING examines the pros and cons of a home-based real-estate agency and tells how technology can help you make the most of selling houses without leaving home. *Plus:* 13 tips for new real-estate agents.

HOW-TO

The Layman's Guide to Presentation Design

Page 37

You don't have to be a digital da Vinci to design printouts, transparencies, and slides that deliver a real visual bang. Armed with some good design sense and a basic knowledge of charts and graphs, you can produce presentations that would make Mona Lisa grin.

SOFTWARE

Presentation-Graphics Software

Page 40

A roundup of 11 popular presentation-graphics packages for MS-DOS and Macintosh machines.

BUYER'S GUIDE

Vivid VGA Monitors

Page 44

The Video Graphics Array (VGA) standard promises unprecedented resolution and image clarity and represents the current state of the art in personal-computer displays. HOME-OFFICE COMPUTING tells you just what VGA is and what you should know before buying into this pricey technology. *Plus:* A side-by-side comparison of 23 VGA monitors.

HANDS-ON REVIEW

Two New Macs

Page 48

Apple takes on MS-DOS 386 machines with its latest Macintosh offerings—the compact SE/30 and modular IICx. Both sport souped-up processing and a new DOS-reading Superdrive.

PRODUCTS

Hardware Reviews

Page 52

Miniguide to Cordless Phones: Reviews plus a side-by-side comparison of four cordless phones that let more than just your fingers do the walking: AT&T's Cordless Telephone 5500, the GTE WalkMate, Northwestern Bell Phones's Excursion 3620S, and PacTel's CS8400. *Computer:* The Micro Express ME 286-20. *Monitor:* Full-page displays with NEC's MonoGraph System. *Printer:* Canon's LBP-811 T Laser Beam Printer. *Fax Board:* Ricoh's ImageCard Fax System.

Office Essentials

Page 58

Information on the latest office products, services, and gadgets. *This month:* Furnishings for the savvy desktop publisher, a sturdy CPU sidemount device, a new monitor-glare shield, a fax-paper wholesaler, and more.

Software Reviews

Page 60

Reviews of two full-featured word processors, *XyWrite III Plus* and *PC-Write*; *Clarion Personal Developer*, a sophisticated database for nonprogrammers; and *FormSet*, a versatile form-automation package.

FAMILY COMPUTING

Looking for Game Opponents? Go On-line

Page 65

Multiplayer games, offered by many on-line services, provide new levels of interaction, realism, and challenge for serious computer-game players. *Plus:* Listings for direct-link modem-to-modem multiplayer game packages.

Software for Learning and Leisure

Page 68

Education: Long reviews of *Audubon Wildlife Adventures: Grizzly Bears*, *Curious George in Outer Space*, and *Fraction Munchers*. Capsule reviews of *Certificates and More!*, *Alcohol: 4 Interactive Programs*, *VCR Companion*, and *HyperComposer*.

Entertainment: *Hidden Agenda*, *War in Middle Earth*. Capsule reviews of *Déjà Vu II: Lost in Las Vegas*, *Kings of the Beach*, *Rack' Em*, and *MacScuba*.

Entertainment News and Hints

Page 72

The inside scoop on the rebirth of subLogic, new games with leading ladies, and MicroProse's latest offerings. *Plus:* Hints for *Police Quest II: The Vengeance*.



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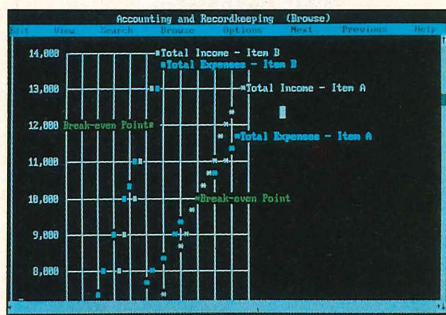


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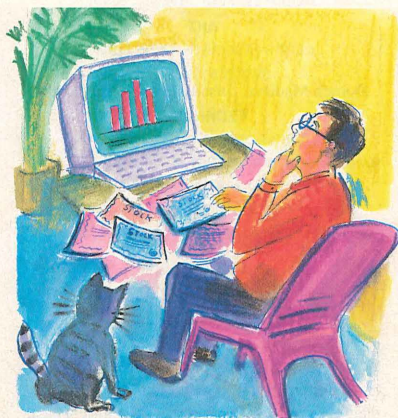
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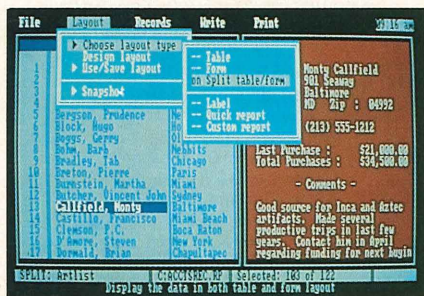
CIRCLE READER SERVICE 31



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COLUMNS

Shoptalk

Page 12

Where There's a Will There's a Way to Do It with Software. Home-business consultant Joanne Pratt tells you how to prepare a will without a lawyer, gives advice on starting up a survey-analysis firm and cashing in on the fax phenomenon, and offers up a list of CAD-oriented newsletters.

Clinic

Page 14

Answers to Your Computing Questions. HOME-OFFICE COMPUTING's technical staff answers readers' computing questions about PC-controlled video manipulation, display quirks of the PCjr, and dealing with the results of a file-recovery utility.

Machine Specifics

Page 16

MS-DOS Multitasking; Talking to Your Mac; AppleWorks GS Update. Hardware and software news, opinions, quotes, and rumors reported by HOME-OFFICE COMPUTING's insider columnists on the IBM/MS-DOS, Macintosh, and Apple II universes.

Working Smarter

Page 28

Naming Your Company. Columnists Paul and Sarah Edwards stress being clear not clever when hanging out your home-business shingle. The right name is essential to communicating a professional image that will attract clients.

Workstyles

Page 80

An MS-DOS User Eyes the Mac. After putting Apple's new-generation SE/30 through its paces, our telecommuting senior editor (and ex-DOS aficionado) Nick Sullivan concedes that the Mac has become the new apple of his eye.

DEPARTMENTS

Editor's Note

Page 6

Letters

Page 7

Up Front

Page 8

News, advice, tips, and a shot of humor on computing, using home-office technology, and running a home business. *This month:* Hand-held organizers, tips on fine-tuning your answering-machine message, advances in CD-ROM technology, why it pays to install business phone service, and color printing . . . a new business standard?

Finance

Page 18

Cash-Management Checklist. Sensible control over where you keep your business' assets and how those assets work for you is critical to your financial success. Bank accounts and money-market funds can help you earn (not burn) more money.

Word Processing

Page 20

How to Organize Work and Ideas. Your complex writing chores need to be organized. Outlining software can help you build a structured road map leading to cleaner, clearer writing.

Telecomputing

Page 22

Getting Investment News and Numbers On-line. Disclosure, Investext, and the Dow Jones News/Retrieval Service can provide powerful on-line solutions to the problems of the small-scale investor.

Databases

Page 24

Meet Dr. Database. Edwin Gordy, M.D., brings a little bit of high tech to his family practice. He uses Ashton-Tate's *RapidFile* to compile and update patient databases, speed up forms processing, and automate accounting procedures.

Business 101

Page 26

How Ma Bell Can Help You Sell. In this installment of HOME-OFFICE COMPUTING's new business-basics department you'll learn some of the proven tactics and tried-and-true methods for telemarketing your home business.

Best-Selling Software

Page 64

Home-Office Shopper/Classifieds

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Advertiser Index

Page 79

Signature: A Matter of Pride and Why it Works

Most of the attention and excitement the press focuses on the home office centers around the benefits and drawbacks of working from home, home-office equipment, and how much money the home-based businessperson can expect to make. I don't see much thought given to why so many people are making working from home work.

So, lately I've spent a lot of time thinking about these whys. Among the thoughts I've been playing around with:

- There's too much emphasis on the aloneness of home-based businesspeople, underplaying the clients they do work for and the relationships between them.
- Much attention is paid to the process of working and not enough to the products or services, without which there would be neither work nor success.
- Clients obviously get something from independent entrepreneurs that they don't get from their own staff or from larger suppliers.
- What's the common denominator?

I believe that the important factor is a traditional one, one that has all but vanished from our largest businesses. I call it a signature.

In the giant corporations I visit, I'm often struck by a pervasive anonymity. I sense that most employees are unknown to anyone outside a relatively small group of coworkers.

And I wonder how many employees in any sizable company have a grasp of what their company does, or whether it does it well. How many of them don't even know what the head of their company looks like?

What a contrast it is to be independent, to take full charge of your work, to be responsible for your success—or your failure—and always to be able to say, "I did this. It's my best work, and it's good."

What a pleasure it is for a client to feel secure that a job will be done by someone doing his or her best, who will stand behind that work.

Every month the pages of HOME-OFFICE COMPUTING are filled with signed pieces by professional writers doing their best. And the magazine as a whole carries the signature of our editorial staff. (Note the name of Michael



Espindle, our new managing editor, on this month's masthead.)

This issue we add two new signatures to our list of contributors. Both belong to people with full-time home-based writing businesses. Contributing Editor Ronnie Gunnerson, author of the first installment of our new Business 101 department (see page 26), is an experienced editor and writer living in southern California, where she edits *Video Marketing*, a weekly newsletter. Ronnie left a full-time job to spend more time at home with her daughter, Emily.

Rich Sheffield, our new games columnist (see page 72), started writing part-time out of his home in Marietta, Georgia, but now earns his entire living writing books and magazine articles.

As you must know by now, if you've been reading HOME-OFFICE COMPUTING for any length of time, our favorite signatures are the ones at the bottom of your letters telling us what you do and don't like about our work and how we can better meet your needs. After all, you are our clients, and our job is to serve you well.

Claudia Cohl

CLAUDIA COHL,
EDITOR-IN-CHIEF

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A GUIDE TO MINIGUIDES

I was distressed to learn that The Complete PC Fax/9600 was not included in your PC fax-board roundup ("Fax Boards: Do You Need One?" May 1989, page 62). Although we have received editorial coverage from your magazine in the past, it is critical for us to be included in this type of head-to-head competitive comparison.

According to BIS CAP International, we are either the market leader or a close second in U.S. shipments. According to *InfoWorld*, our products are the best available; in *PC Magazine* we were rated a runner-up.

Our exclusion from the survey concerns me.

WILLIAM F. X. GRUBB
President and CEO
The Complete PC
Milpitas, California

EDITOR'S REPLY:

Your letter brings out a likely point of confusion for our readers. HOME-OFFICE COMPUTING's monthly *Hardware Miniguides*, unlike our more-comprehensive *Buyer's Guides*, are not all-inclusive equipment "roundups."

Instead they are a way to review several products in a single category between the publication of the *Buyer's Guides* mentioned. Products previously covered in standalone reviews are not included in the *Miniguides*. The Complete Fax/9600 received a three-star rating in our April issue (page 65), and that review was referred to in the May issue's "Fax Boards: Do You Need One?" (bottom of page 62).

To avoid further confusion, we now include an About This Miniguide box (see page 52) to communicate the editors' rationale for each month's Miniguide grouping.

Thank you for your letter.

MAC VS. MS-DOS: THE BATTLE CONTINUES

Steve Morgenstern's article "Macintosh vs. MS-DOS: Which System Is Better for Page Layout?" (February 1989, page 32) contains several misleading—if not outright false—statements.

The statement "If you're just starting out . . . an MS-DOS computer can be just as good a pick as a Macintosh" would be refuted by 100 percent of the people who have ever installed even the simplest MS-DOS desktop-publishing software, such as *PageMaker*, which requires installation of *Windows* and soft fonts for even the most rudimentary page layout. Then the beginner can begin to decipher the myriad escape codes that must be sent to the laser printer. For a beginner, the Macintosh is the simpler system by far.

The statement "Macintosh-compatible page-makeup software demands PostScript" is plain wrong. Most Macintosh DTP programs support QuickDraw, and the output on a non-PostScript printer, such as the GCC PLP or even an ImageWriter, is quite acceptable.

In addition, Morgenstern fails to point out the hidden cost of the heavy investment in hardware that DTP in an MS-DOS environment requires—at least a 286 machine, plus a mouse, plus a mouse-interface board, plus an EGA graphics monitor, plus an EGA graphics interface, plus a slew of soft-font cartridges. You can desktop publish on an MS-DOS machine with less, but the time and effort involved easily discourage the user, and the end product is unprofessional.

I am a computer consultant who has had experience with both MS-DOS and Macintosh DTP. For the beginner, the Macintosh is the clear choice.

SUSAN STEVENS

Computer Instruction, Inc.
Buffalo, New York

STEVE MORGENSTERN REPLIES:

Susan Stevens's letter contains several misleading—if not outright false—statements.

Most, if not all, major MS-DOS desktop-publishing software and soft fonts include prompted installation programs to automate the process. And "deciphering escape codes" to run a laser printer? Maybe years ago, but nowadays you just choose the appropriate printer driver and let the software take care of the technicalities, whichever system you're using. As for using a non-PostScript printer for Mac DTP: For realistic desktop-publishing output, we're talking laser printers here, not dot matrix, so the ImageWriter is simply not acceptable. When it comes to supporting non-PostScript printers, the HP LaserJet standard used by MS-DOS systems has much more extensive type and graphics support than a QuickDraw-based laser printer for the Mac at 300-dpi resolution. And, of course, either system can effectively drive a PostScript printer.

Finally, Stevens is mistaken in assuming you need EGA to run DTP in MS-DOS. If a black-and-white display (similar to that of the Macintosh) is acceptable to you, a Hercules-compatible graphics card and monitor system produces an excellent monochrome image on an MS-DOS machine. The monitor will cost about \$100; the graphics card even less. A mouse, with or without an interface card, runs about \$100. For the basic hardware—an 80286-based AT-compatible computer with a 20MB hard drive, mouse, and black-and-white Hercules-compatible display system, you'll pay less than \$2,000. For

a similarly configured Macintosh SE, you'll spend close to \$3,000. As for the fonts, they're equally expensive for both systems.

MORE CONSULTANT TIPS

After reading your March 1989 issue, I had to provide you with some feedback. The Up Front article "Tips on Hiring a Computer Consultant" (page 14) left me with a bad feeling. The first point in the piece indicates that using the yellow pages is the wrong way to find a consultant and that asking a computer users' group is the right way. What kind of advice is that?

The purpose of the yellow pages is to provide options for those in need of services or products. I think your readers are intelligent enough to understand that the way to effectively use the yellow pages is to choose several names and then get references from each company. Using the yellow pages can be an excellent method of finding the right consultant.

Certainly the most important piece of advice to give someone looking for a consultant is to get references from current clients of the company under consideration.

As for asking computer groups for references—be careful. Many users' groups are made up of hobbyists. Although someone may be extremely competent in the use of a computer, that does not necessarily translate into being a good consultant.

There is also a point about avoiding part-time consultants. This may be good advice for large jobs that require daily attention, but there are many jobs that a part-time consultant could handle just fine. What's important is finding someone capable of doing the work.

I continue to enjoy your magazine. It is perfect for the home office.

MICHAEL P. AYARS
Marathon Data Systems
Ocean, New Jersey

CORRECTION

On page 98 of the October 1988 HOME-OFFICE COMPUTING, we incorrectly listed the address of MicroPro International, publisher of the *Easy Extra* word-processing package. MicroPro's address is 33 San Pablo Ave., San Rafael, CA 94903; (415) 499-1200.

HOME-OFFICE COMPUTING looks forward to letters from all readers. Please direct correspondence to Letters to the Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Include name, address, and telephone number. Letters become the property of HOME-OFFICE COMPUTING and may be edited for length and clarity. ■

EDITED BY BRIANNA POLITZER

Business Phone Service a Legal Must for Home Businesses

If you run a business out of your home using residential phone service, you may be violating the law. Most, if not all, state public-utility commissions prohibit anyone with residential telephone service from soliciting business over the telephone; answering the telephone in person or on an answering machine using a business name; or advertising the telephone number as a business line—such as on business cards or letterhead.

There is sometimes a fine line between business and residential uses of the phone (for example, a real-estate agent who lists a home phone number on a business card), so be careful at tax time. There may be a limit to how much of your residential phone bill you can write off as a business expense.

If your telephone company discovers you are using residential service for business, it may ask you to convert your service. If you



don't respond, most companies will disconnect your telephone, according to a spokesperson for Chesapeake & Potomac Telephone in Virginia. Other phone companies, including Pacific Bell, Contel, and U.S. West, have similar policies, but specific procedures vary.

Hookup charges for switching from residential to business service are usually less than half the cost of installing a new business telephone, but if the business closes, the number cannot always be reverted to residential service.

For the business rate, most telephone companies will provide a one-line listing in the yellow pages.

If you have questions or concerns regarding your service, call your local telephone company.

—PATTI KIDD

ILLUSTRATION BY DAVID CAIN

Clean up Your Answering-Machine Message



The message on your answering machine gives potential clients their first impression of your company. If your voice sounds as if it's coming from the bottom of a well, you've lost points before you've even had a chance to return the call.

Call your own number periodically. If the message sounds crackly or distorted, try cleaning the playback and recording heads on the outgoing-message recorder with a cotton swab dipped in alcohol or head-cleaning solution. Gently swipe the damp (but not dripping) swab over the heads.

BRIANNA POLITZER is the researcher at HOME-OFFICE COMPUTING.

A Roundup of Hand-held Organizers

It was just 15 years ago that electronic calculators replaced slide rules and adding machines, becoming almost indispensable overnight. Hand-held organizers, the latest electronic novelty, could become just as essential—storing schedules, memos, and address and telephone data in a device not much bigger than a pack of cigarettes. Advances in keyboards, displays, memory, and software now give the consumer several powerful but moderately priced machines to choose from. See chart below for a look at six, all of which can store 8,000 to 32,000 characters (about 1,600 to 6,400 words).

In addition to basic organizing functions, these models incorporate a variety of extras. All except the Psion have some form of optional password protection for data access. All except the Selectronics can search for random keywords and organize or re-

trieve information in a variety of ways. The Psion can be programmed to provide additional storage categories. All except the Casio include a schedule alarm (although some of the alarms are difficult to hear) and a hardware-communications interface for backing up data.


In this era of rapidly changing information, any of the five devices listed here could help you better organize your business. If you're one to keep your data on little scraps of paper in your wallet, maybe there's an organizer out there just for you.

—RORY SELLERS


MANUFACTURERS

Selectronics: (612) 545-6823
Casio: (201) 361-5400
Psion: (203) 274-7521
Sharp: (201) 529-8200
Tandy: (817) 390-3011


Company/Model	Weight with Batteries	Memory Size	Retail Price
Selectronics DataStor 8000C	1 oz	8K	\$50
Selectronics DataStor 8000F	4 oz	8K	\$50
Casio Digital Diary	6 oz	32K	\$109
Psion Organiser II-XP	10 oz	32K	\$250
Sharp Wizard	9 oz	32K	\$300
Radio Shack Digital Appointment Calendar Data Bank	6 oz	32K	\$80




Casio Digital Diary



Psion Organiser II-XP



Sharp Wizard



Selectronics DataStor 8000F

ILLUSTRATION BY DENNIS DITTRICH



THERE'S A FAX ON YOUR DESK.

ADD THE COMPLETE FAX/9600 TO YOUR PC FOR JUST \$699. The Complete FAX/9600™ lets you communicate with any Group III fax machine in the world. Even with other computers equipped with a fax board. You can send text, graphics, hard copy, just about anything you use in your business.

EASY TO USE. With our Hot Key, you can send directly from your word processing program with just a few quick keystrokes.

OPERATES IN THE BACKGROUND. The Complete FAX/9600 sends and receives faxes transparently, without interrupting the program you're working on.

When a fax comes in, you can view it immediately, save it, or print it out while you continue to work.

SEND TO ANYONE, ANYTIME. There's a directory for frequently dialed numbers you can use to create different distribution groups. With one command, you can send a fax to each destination along with an automatically generated cover sheet.

You can store faxes and schedule them for transmission later, when phone rates are

lower. To make sure a busy phone line doesn't get in the way of delivery, automatic redial keeps trying until your fax gets through.

COMPLETE SCANNER SUPPORT. The Complete FAX/9600 supports all popular scanners, including Canon®, DEST™, Microtek and Hewlett-Packard. It comes on one easy-to-install board that takes up a single slot. It even comes with a 2-year warranty.

WHAT YOU NEED. Just an IBM® PC or compatible with a hard disk and graphics card. With that and \$699, you're in business.

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For more information about The Complete FAX/9600 or The Complete FAX and the name of the dealer nearest you, call today.

1-800-634-5558.



TheComplete PC

Library on a Disk

The future of information storage has arrived: CD-ROM. It takes the shape of a shiny, plastic disk, is slightly smaller than a 45-RPM record, and can hold 74 minutes of audio at full fidelity, 270,000 pages of text, or 10,000 photographic images.

Compact-disk read-only memory (CD-ROM), now used to store information by some database services such as Dialog, will soon be a mass-storage computing standard, bringing unprecedented amounts of information straight to the desktop. Imagine having three sets of encyclopedias, a 660MB data-

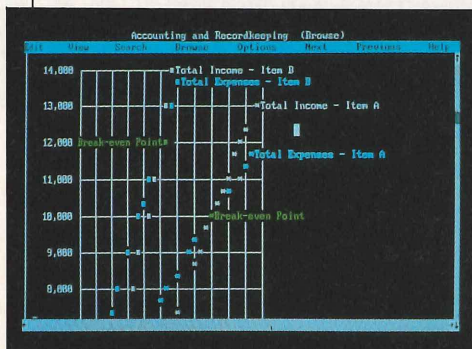
base, or 100 phone books (including the yellow pages) on a single disk!

Like audio compact disks, these CD-ROM disks require special optical drives. The drives have problems: Average access speed is slow (about one-half second, compared with an average access speed of 28 milliseconds for some hard disks); prices are in the \$1,000 range; and the drives cannot erase or write over disks. But as CD-ROM becomes more common, we can expect faster, cheaper drives, and disks on which files can be edited and modified.

CD-ROM software is already on the market. A couple of noteworthy packages for the home business are *Small Business Consultant* (Microsoft Corp., [206] 882-8080, \$149), which outlines thousands of resources for the entrepreneur, including information on Small Business Administration loans, credit, collateral, and forecasting liabilities and net worth; and *Clip Art 3-D* (NEC Home Electronics, Inc., [312] 860-9500, \$399), which holds 90MB of clip art on a single disk.

If you've ever tried to save a file to a full floppy disk or hard-disk drive, you know how frustrating it is to run out of space. And when prices go down (these optical drives should be selling for under \$500 in the next year), information gathering and storage will become a lot easier.

—STEVEN C.M. CHEN



Microsoft's *Small Business Consultant* offers thousands of resources for the home-based professional.

Expectations up, Business Failures down

More U.S. firms stayed in business last year than in 1987, according to the Dun & Bradstreet Corporation, which reports the largest decrease in business failures in nearly a decade. Although 61,111 businesses folded in 1987, only 57,098 companies closed up

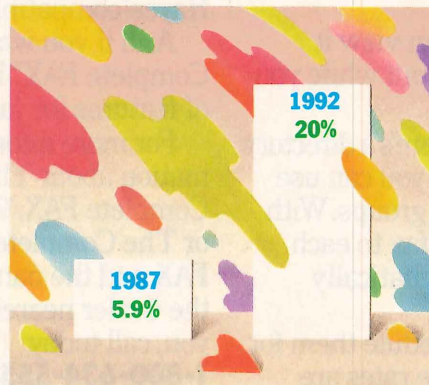
shop in 1988—a decrease of 6.6 percent. This decrease, reports D & B, underscores the continued strength of the economy, now in its seventh year of expansion. What's more, says Reid Gearhart, a D & B analyst, the trend has continued into 1989.

Color Printer Output Becomes a Business Standard

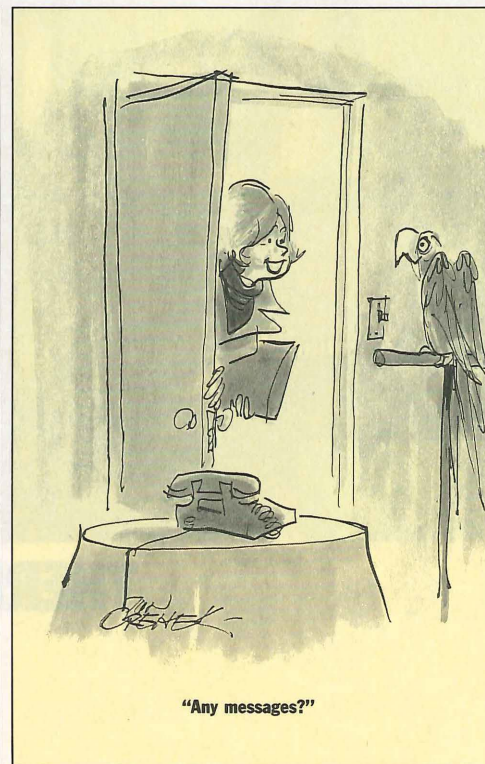
If you think your monochrome laser-printed reports will dazzle clients forever, think again. The standard for professional-looking documents has just gone up.

The demand for color output is steadily growing, according to CAP International, a market-research firm in Norwell, Massachusetts. Although color printers had previously been a specialized market, the CAP study shows that they will go mainstream by 1992, commanding almost 20 percent of the printer market, up from 5.9 percent in 1987.

The reasons for the growth, says Greg



Porell, director of CAP's Color Hard Copy Service, are steady price reductions and the emergence of complementary equipment—such as color copiers—in the office environment.



Quote of the Month

"The way to achieve a goal is to be like a marathon runner: You must learn to pace yourself."

—STEVE MUCHNICK, *Manhattan psychotherapist and consultant on time management and productivity*

Did you know . . . ?

CompuServe, Delphi, MCI Mail, and other network services now offer fax transmission (but not reception) as a subset of their regular electronic mail services. All you do is upload your document, specify a fax number, then sign off. The system does the rest. Subscription start-up costs range from complimentary offers to about \$50 plus connect time, depending on the network's current promotional offer. If you usually send disk-based documents and rarely receive faxes, these services could be a welcome (and low-cost) alternative to investing in a fax machine.

—ERNEST PEREZ

REPEAT PERFORMANCE

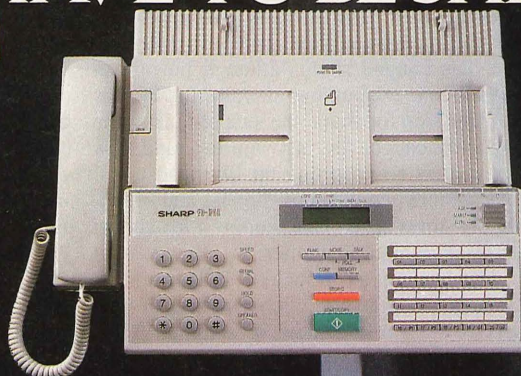
NO. 1 FAX

1987: The Sharp brand outsold all fax machines in 1987—for good reasons. Sharp takes the most advanced technology and makes it affordable. Sharp has a full line of networkable machines designed to grow with your business. What did Sharp do for an encore?

NO. 1 FAX

1988: The Sharp brand outsold all other fax machines—again. Sharp machines offer the features—auto-dial, auto-feed, auto-cutter, send-later and sixteen-shade halftone transmission—that every business wants at a price they can afford. To learn more, call 1-800-BE-SHARP.

TO STAY NO. 1
IN FAX FOR 2 YEARS, YOU
HAVE TO BE SHARP



Where There's a Will There's a Way to Do It with Software

BY JOANNE PRATT



You don't have to be embarrassed to admit that you don't own a fax machine. You can register your business, for no initial fee, at a self-service fax center such as

ActionFax ([214] 385-8342). So when you're asked for your fax number, you'll be ready. ActionFax will call you when a document arrives—who's to know that you're traveling five blocks to pick it up?

At \$3 or \$4 per page, the cost is not cheap, but using a fax center is an easy way to determine whether or not you really do need a fax machine. One more tip: For those of you who have a fax machine, you can advertise in business directories that you have an unlisted fax number, which would protect you from receiving unsolicited junk faxes.

Q. I have been operating a home-based word-processing business for eight years. My husband and I have seen advertisements for software packages that let you write your will without having to see a lawyer. The ads claim that you save money and can update the will as needed. We have a 7-year-old son and know we need wills, but don't feel we have the money to spend for an attorney at this time. Which of these programs are really good, and are the wills valid?

V. MOSSMAN
Greeley, Colorado

A. WillMaker (\$60; Nolo Press, 950 Parker St., Berkeley, CA 94710; [415] 549-1976) can help you create a simple will that is valid in all states except Louisiana (which operates under a civil code based on the Napoleonic Code instead of English common law). The 22-page chapter in the manual, "Special Considerations for Children," will tell you how to provide for guardianship for your son and management of his inheritance. The manual is an excellent guide for making and updating a will, whether you write it yourself or not.

These products are generally best for uncomplicated situations; if you want to do anything fancy, see a lawyer. Even if you do write your own will, *WillMaker* recommends that you have it reviewed by a professional.

Have you considered bartering your word-processing services for an attorney's?

Q. I recently did some survey analysis for a local university. I used Harvard Graphics, DataEase, and a word processor to create a report summarizing about 100 surveys. Is the business of analyzing surveys in high demand? What are some of the better statistics programs around?

J. BURKE
Hempstead, New York

A. You need to do careful market research before starting a survey-analysis business. Ask your contacts at the university if they will continue to need your services and if they will give you referrals.

Also, meet with market-research firms in your area. As part of each interview, find out the specific type of statistical analysis that they would need. Only with that information will you be able to select software (and justify the expense). Two high-powered programs are *SPSS/PC Plus* (\$795 for the base module; SPSS Inc., 444 N. Michigan Ave., Chicago, IL 60611; [312] 329-3300) and *Systat/Sygraph* (\$595 for *Systat* only, \$795 for both *Systat* and *Sygraph*; Systat, Inc., 1800 Sherman Ave., Evanston, IL 60201; [312] 864-5670).

Q. I am considering buying a fax machine and starting a fax service in my area. How should I set fees, and what other requirements should I be aware of to get this business off the ground?

R. C. LUCEY
Weehawken, New Jersey

A. You're probably too late to compete against established firms with the same great business idea. The window of opportunity for starting a fax service, except as a franchise, has banged shut. Although businesses have been exchanging documents by fax transmission for years, the idea of fax centers suddenly caught fire last summer, and now fax centers have sprung up like toadstools. Gas stations, copy shops, hotels, and office-supply stores have made sending a fax almost easier than mailing a letter.

The ActionFax franchise bills itself as "one of the fastest growing networks of self-service facsimile centers or stations." National marketing manager Steve Gordon says there are thousands of available loca-

tions. You can call ActionFax at (214) 385-8342 for information.

Q. Please tell me the address of the publishers of the CAD newsletters you mentioned in your December column.

M. WILLIAMS
Midwest Consulting Engineers
Chicago, Illinois

A. Some firms circulate free newsletters, as marketing tools, to their target prospects. Carich Reprographic (412 S. Harwood, Dallas, TX; [214] 939-0009), the company I referred to in the December issue, no longer publishes its newsletter. I suggest you check with large reprographic houses in Chicago to find a locally published newsletter.

Guidelines (P.O. Box 456, Orinda, CA 94563; [415] 254-9393), which began as a home-based architectural publishing firm, mails four-page ads in newsletter format. The company publishes four subscription newsletters for architects and engineers, covering the topics of working drawings, Macintosh news and information, marketing, and new techniques in the design profession. Write or call for sample copies.

Another home-based business I discovered is Dan Raker's DSR Publishing Company. Raker sold part of a larger firm because he got tired of managing more than 30 people. His reorganized firm has two full-time writers and a number of freelancers. They communicate via an on-line bulletin board, phone, and fax. Raker's newsletter, *Design Systems Strategies: The Management Report of Automation and Productivity*, is written to help architecture and engineering design professionals manage new technologies. (\$149 per year in the U.S. and \$180 per year outside the U.S.; published monthly; [207] 767-6071.) ■

SEND US YOUR HOME-OFFICE QUESTIONS

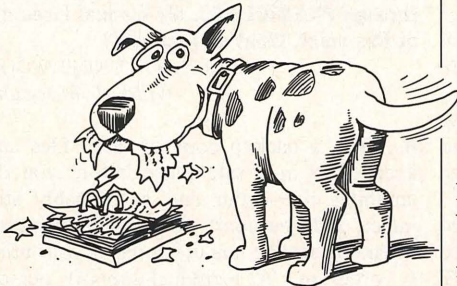
Send your questions on taxes, legal issues, developing a business plan, capitalizing, marketing and public relations, or any other business-related issues to Joanne H. Pratt, c/o ShopTalk, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Name, address, and telephone number must be included on all correspondence. Pratt is a nationally known researcher, consultant, and speaker on the subject of home business.

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It's 9 A.M. Do you know where your meeting is?



It happens to everybody. Even people who keep accurate notes don't always know where they keep them.

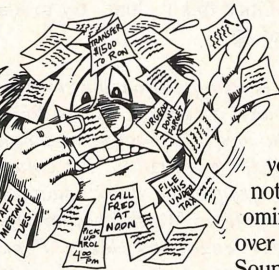
In fact, most of us are so busy that important phone numbers can end up scribbled on matchbook covers, crumpled envelopes or pay stubs. And the one thing we forgot to put in the briefcase last night is the list of things to do this morning.

Well, if you use an IBM® PC or compatible, we have good news for you.

Not only will MemoryMate organize all your random information for you, it will also automatically remind you each day of what's on your agenda and who you're supposed to call.

We're getting people out of sticky situations.

You know those little yellow sticky notes? They're great for putting reminders right where they should be. But then they get buried, along with the rest of your important notes, lurking in ominous piles all over your desk. Sound familiar?



MemoryMate is going to change all that. Let's look at an example.

The truth about executive search.



Suppose you're in the landscaping business and a developer calls you for a bid. He's building three huge hotels in Hawaii. When his permits come through, he wants you to plant several hundred palm trees. Great work if you can get it!

Now it's time to follow up, but you can't remember the guy's name. Fortunately you wrote everything down in MemoryMate. As quickly as you can type "Hawaii"—or any other word in your notes—MemoryMate will search its entire contents until the record you want appears on the screen.

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- Generous. Needs only 88K of RAM.
- Instructional. Comes with free informational databases, including DOS help.
- Easy. 17 commands manage everything and they're always onscreen.
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Requires IBM PC/Tandy® or compatible. PC DOS 2.0/MS® DOS 2.0 or later. 256K recommended. Requires 88K of RAM (33K with EMS.) Not copy protected.

Satisfaction guaranteed . . . or your money back!

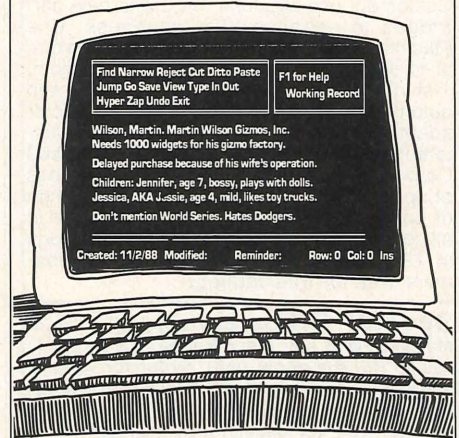
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"You'll wonder how you ever got by without it." PC Week

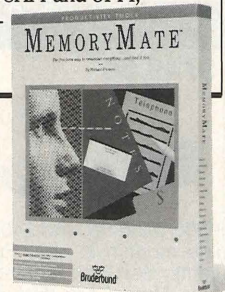
"Lightning fast" Syndicated columnist Bob Schwabach

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CLINIC

Video Recording From MS-DOS Machines

EDITED BY JEFF DONAHUE

SAY IT WITH PICTURES

Q. I would like to use my IBM XT clone in my video business. Can I get an adapter to connect my computer to a VCR?

—BENNIE LEWIS
Dafter, Michigan

A. It is possible to use an MS-DOS computer with a VCR system. What you want, though, is not an adapter but a video card with an RCA output jack. Willow Peripherals (190 Willow Ave., Bronx, NY 10454; [212] 402-0010) offers the VGA-TV card for \$699. The card provides VGA, EGA, or CGA images for your computer and allows you to direct the video signal to standard televisions, VCRs, and even large-screen and projection televisions.

Recordable VGA (\$799) is another video card, this one from USVideo (One Stamford Landing, 62 Southfield Ave., Stamford, CT 06902; [203] 964-9000). It is completely VGA compatible and 400 to 600 percent faster than basic VGA. Recordable VGA also has enhancement options for graphic and text overlays, digitization, and windowing. This makes it especially suitable for desktop video applications.

PCjr: CGA QUESTION

Q. Since we purchased our IBM PCjr, we have learned that some programs require a Color Graphics Adapter (CGA). I was under the impression that the PCjr had CGA built in. Is this correct? Can it be replaced with a more advanced graphics adapter? Please help!

—TEDDIE ENGLEBERT
Hartsville, South Carolina

A. If you glance at the PCjr owner's manual, you will see that although no mention of CGA is made, the machine supports all standard CGA modes and several nonstandard ones, meaning that any CGA-compatible software should run without a problem. As for upgrading the display, because of the "hard wiring" of the graphics modes, a PC graphics card will not work in the PCjr.

News about PCjr products and enhancements is available from several places. On CompuServe you can access the PCjr Forum by typing: GO IBMJR. To find a users' group near you, write to IPCG (2269 S. University Dr., #118AF, Ft. Lauderdale, FL 33324; [305] 434-4809). Also, for two

good catalogs of PCjr accessories, you can contact PC Enterprises (P.O. Box 292, Belmar, NJ 07719; [800] 922-PCJR) and Computer Reset (Dept. HOC, P.O. Box 461782, Garland, TX 75046; [214] 276-8072).

FILE SAVER

Q. I used a utility program to recover some files on my hard-disk drive, and now all I have is a bunch of files labeled FILE0001.REC through FILE0801.REC. My manual loses me at this point. What do I do next?

—HAROLD F. UNDERWOOD
Waldorf, Maryland

A. Make a backup copy of these files and keep them in a safe place before you do anything else—your data is probably still intact, and you don't want to risk losing it. Then contact the manufacturer of your utility program. A technical-support person should be able to help you.

But in case you can't reach the manufacturer, here is some information: One of the most common problems with hard-disk drives is that the File Allocation Table (FAT) gets damaged. When this happens, the names of individual files are lost, but the files themselves are not affected. If your programs store data in ASCII format, getting the lost data back is as simple as loading the recovered files into a word processor, piecing together jumbled segments of text, and saving the data under a more meaningful name—a process requiring patience more than anything else.

Even if your programs don't save in ASCII format, it's possible to restore database, spreadsheet, and other data files by changing the file name extension (in your case .REC) to the one expected by your program (for example, .DBF if you were using dBase). Once this is done, try to load the file as usual. ■

If you have technical questions or computer ailments that need diagnosis, our technical staff will try to help. Although we cannot answer each letter personally, this column will deal with frequently asked questions and common problems. We reserve the right to edit letters for length and clarity. Please include your name, address, and phone number with all correspondence. Send your letters to Clinic, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003.

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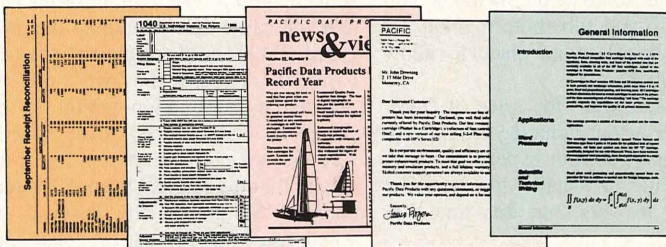
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CIRCLE READER SERVICE 40

MS-DOS Multitasking • Talking to Your Mac

AppleWorks GS Update

IBM / MS-DOS

BY HENRY F. BEECHHOLD &
STEVE MORGENSTERN

IBM's Operating System/2 (OS/2) has already gone into an extended edition. This is a bit odd because there is so little software available to run under any edition of OS/2 (except in its MS-DOS-compatibility mode). But the breeze blowing in OS/2's direction is picking up. Look for Microsoft *Excel*, Aldus *PageMaker*, and other popular applications to be out in OS/2 versions before long.

Does this signal the demise of DOS? Don't believe it. OS/2 is a memory hog. With a little inventiveness, you can match its advantages in most computer environments using DOS 3.3 or DOS 4 (see below).

Vedit: An Old Friend Updated. *Vedit* is one of the golden oldies of text editors. (A text editor is an application designed for programmers that speeds up many tedious operations and includes features not found on a word processor.) It's come a long way from its beginnings about a decade ago. I was one of the first "Veditors" and have used every version. *Vedit Plus 3.0* (CompuView, \$185) is a stylish beauty with all the capabilities that one could want in a programmable text editor. And if there's anything about it you'd like to modify—keyboard layout, editing functions, window design—*Vedit* provides the tools with its customizing and programming features. It has math, macros, multilevel Undo up to 1,000 levels, and plenty more—even automatic bracket matching to help you write C or Pascal programs. Want to try a fully functional copy for free? Call (313) 996-1299 or (800) 458-3348. This version's only limitation is the size of files you can work with.

An Idea Machine. You hear a lot about artificial intelligence, but where can you get it? Try *Thoughtline* (Xpercom, \$295), a writing and problem-solving aid that turns your computer into a Socrates of sorts—a questioner that helps you discover what you need to know to get a writing or business project focused and organized. The program remembers your answers and uses the information to ask increasingly pertinent and perceptive questions. Written in LISP (the premier artificial intelligence language), *Thoughtline* can lead you through alternative paths to a decision, match patterns, make creative links through a random idea

generator, and so on. Once you've played the *Thoughtline* "game," you'll find it difficult not to return again and again for help solving a wide range of business and communications problems. —H.B.

Doing Two Things at Once. At a recent computer trade show, I was taken to task by a gentleman from Quarterdeck Office Systems. Or to be more accurate, I was taken to multitask, since multitasking was the subject of our conversation.

I had described multitasking—having several programs running simultaneously on a single computer—as one of the key benefits promised to OS/2 users. However, the point made with great force by the gentleman from Quarterdeck was that you can, in fact, multitask existing MS-DOS applications using an environment that works along with good old DOS. As you might expect, Quarterdeck makes such a product—the highly regarded *Desqview*. I agreed to take a look at it.

Desqview offers both context switching (jumping instantly from one program to another) and true multitasking (actually running several programs at once). As a context switcher, it works much like *Software Carousel* from SoftLogic Solutions (discussed in the April 1989 *Clinic*), swapping programs not currently in use to expanded memory or a hard disk, but it handles graphics-based programs better than the version of *Carousel* I saw (*Software Carousel* has since been upgraded to version 3.0).

If you want to use *Desqview* for multitasking on an XT- or AT-compatible system, you need expanded memory that conforms to the LIM 4.0 specification. It isn't enough to simply add the memory, though. You must disable some of the memory built into your system and substitute memory on the expansion board in its place to allow multitasking. Ouch!

So the \$130 question (the price of *Desqview*) is whether or not inducing brain death in a significant part of your expensive memory is worthwhile. I usually like to offer nice yes-or-no answers, but this time I'm just not sure.

You end up with a system that does, for the most part, work as advertised. I can now have a few programs running simultaneously in separate on-screen windows (the number of programs is limited by available memory and the size of each program), but *Desqview* can be temperamental. Even so-called well-behaved programs sometimes inexplicably lock up, leaving no alternative

but to reboot the entire system. Fine-tuning the combination of programs and *Desqview* settings to minimize crashes requires a fair amount of technical fiddling. If you don't like that sort of thing, you should probably avoid the program.

I can see two valid reasons for wanting a multitasking system in the first place: having a file print while you do something else and having a telecommunications program running in the background. I managed to make both of these things happen with *Desqview*, within certain limitations.

If you have a strong urge to multitask, and don't mind dealing with technical matters, give *Desqview* a try. After experimenting with it on an AT-compatible system, I haven't made the program a daily part of my system setup, but then I'm pretty happy tackling one computer task at a time. I may become more of a *Desqview* fan the day I upgrade to an 80386 system. *Desqview 386*, a version of the program that takes advantage of the 80386 chip, doesn't require disabling system memory. This allows you to run larger programs simultaneously, and it cuts down on cross-program interactions.

Just the Fax, Ma'am. Clients and other contacts keep asking me why I don't have a fax machine, as if it's indoor plumbing I am doing without.

I suppose I'll get one soon, but until I take the plunge, I can send text-only faxes to other people's fax machines using either CompuServe or MCI Mail. Last week I had to deliver an article to a fax-equipped editor who actually wanted ink on paper rather than a computer file (primitive, eh?). I used the CompuServe connection to send a fax.

It was simple. I uploaded the text file as if it were going via regular electronic mail. When it came time to address the message, I typed >FAX and the recipient's fax number. CompuServe did the rest—the message reached its destination within 15 minutes, complete with a neat cover sheet, and I received a message in my on-line e-mail box saying that the fax had been delivered. I was charged \$1.25 for the service—not bad when you consider that the local copy shop has a \$10 minimum on its fax service.

—S.M.

HENRY F. BEECHHOLD is the author of *The Brady Guide to Microcomputer Troubleshooting & Maintenance* (Brady Books, Prentice Hall Press, New York).

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MACINTOSH

BY JIRI WEISS, JR.

"Move to the right," a rather hoarse exhibitor said into a microphone at a recent Mac exposition. A standing-room-only crowd watched the cursor move slowly but steadily across the Mac's Desktop. "Stop," the man said when the cursor reached a folder. The cursor stopped. "Double click." The folder opened.

Voice Navigator, the product being demonstrated, makes it possible to control a Mac with voice commands. The \$1,295 device, about the size of an external hard-disk drive, can be trained to understand 200 commands. (Training requires little more than repeating words displayed on the Mac screen three times.) Each command can in turn trigger the device to load in another 200 commands, giving users an almost limitless number of possible commands, according to Voice Navigator's developer, Articulate Systems, Inc.

Articulate Systems believes Voice Navigator will be useful not just for the handicapped but for professionals who could use an extra pair of hands when they work with complex computer-aided design packages, doctors reading from X rays, and speakers who want to control Mac-based presentations from a microphone.

Competing with the Giants. Paragon Concepts, Inc., a tiny software company, is taking on the giants in word processing with its \$395 *Nisus*. One of the many features you won't find in most other word processors is a search-and-replace function that will look for any combination of characters or attributes. You can search for all the italic text, for example, or all the 9-point Helvetica Bold—even special characters.

Another nice feature of *Nisus* is that you can undo as many steps as you want. So if you suddenly realize you made a mistake a few strokes back, you need not panic. With *Nisus* you can also set up macros, wrap text around graphics, and use the graphics tools provided by the program to create new ones.

Nisus does lack some of the niceties of Microsoft *Word* style sheets, however. You can't adjust the ruler when creating a style sheet, for example. Another minus is that although the program can read Microsoft *Word* files, it can't create them.

MacWrite Revamped. Claris is now shipping *MacWrite II*, a reincarnation of the popular entry-level word processor, which adds such features as multiple windows, search by font size and style, mail merge, and a wider range of fonts and font sizes. You can format text in multiple columns, and the revamped program is much faster than its predecessor, according to Claris.

Bundled with the program is *Word Find-*

er, the thesaurus desk accessory from Microlytics Inc., reportedly used by William F. Buckley, Jr.

At \$249, *MacWrite* is hardly an entry-level word processor. Users of the old *MacWrite* and other word processors who want to switch to the new version can do so for \$75, however. An upgrade from *MacWrite* 5.0 costs \$65.

Making Editing a Breeze. One of the frustrations of editing long documents is having to cut and paste paragraphs and graphics one at a time. Olduvai of South Miami, Florida, says that it has resolved that problem with a \$99 desk accessory called *MultiClip*.

When you choose *MultiClip* from the Apple menu, it permits you to keep what you have cut in multiple clipboards. These clipboards can be pasted in any order into a document and even edited with a word processor.

Reading MS-DOS Files Without Modems. Kennect Technology of Los Gatos, California, provides a new way for Macs to read and write MS-DOS files. All you need to do is plug Rapport (\$295), a rectangular unit smaller than a mouse, into the external-drive port of your Mac. Drag the *Apple File Exchange*, a translator licensed from Apple by Kennect, into your system folder, and presto! You can read a 720K IBM disk with your internal drive.

If you have an external 800K Apple floppy drive, Rapport will also let you write to the IBM disk. As an added benefit, Rapport extends the capacity of the external drive. Rapport claims to allow you to store 1.2MB on an 800K-rated floppy disk.

Kennect also introduced the \$495 Drive 2.4, a floppy drive which paired with Rapport will pack 2.4MB on a high-density floppy disk.

JIRI WEISS, JR. is a freelance writer based in Berkeley, California, and can be reached at MCI mailbox JWEISS.

APPLE II

BY CHARLES H. GAJEWAY

By the time you read this, Claris should have released an *AppleWorks GS* (AWGS) update intended to improve printing speed and importing graphics, two major problems experienced by early AWGS users. According to Claris, many reported AWGS bugs are caused by faulty chips and other previously undetected RAM problems, so in addition to the other improvements, there is a module that tests all memory installed in the GS.

Not changed in the new version, however, are the program's general sluggishness and the spreadsheet's voracious appetite for RAM, which I noted last month. For users who already have business programs that

they like (including *AppleWorks* 2.1), I don't recommend switching to this version of AWGS, as the speed penalty is not worth the added features and integration.

But newer users attracted to the Mac-like aspects of the GS, or those who find older Apple II software less than friendly, will want AWGS, sluggish or not. These users can add some much-needed snap to AWGS with the new TransWarp GS accelerator card (Applied Engineering, \$399). This speedy device more than doubles the standard 2.6 MHz speed of the GS to 7 MHz, thus operating seven times faster than the original Apple II. The TransWarp GS will, of course, speed up almost any software running on a IIGS, but AWGS will also show more apparent benefits in normal operation. I also like that the TransWarp can be placed in a slot normally assigned to either the text display or the mouse.

The End of the Apple II Family? With a sub-\$1,000 Macintosh likely to appear in 1989, increasing competition from 8-bit II clones, and Apple shifting its educational emphasis to the Mac family, rumor is spreading that the days of the II family are numbered, especially the older 8-bit models. I disagree with the rumors, at least to some extent.

I think that Apple will curtail further research and development on the II, perhaps after the expected GS upgrade. At that point, further performance enhancements will come from third-party vendors. But I believe that the popularity of the II will take many years to die off, and that Apple will continue to produce the family until demand or price falls to the point where profitability is questionable. And as much as Apple's resources could and should be assigned to pushing the frontiers of computers ahead with fresh new technology, I doubt that the company would be foolish enough to strand millions of users, especially GS owners, with fully functional orphan machines. ■

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Quarterdeck Office Systems, (213) 392-9851
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Cash-Management Checklist

BY JOHN WASIK

How Banks and Money-Market Funds Can Help You Earn (Not Burn) More Money

Cash management is the art of putting your cash where it will do you the most good. Why is cash management so important? In many cases, it can mean the difference between earning hundreds of dollars in interest (or dividends) and running a simple checking account at a loss.

Like so many other prosaic details of running a small business, effective cash management is something that can improve your bottom line with little effort on your part. But many home-based business owners become hostages of expensive banking practices. Below are some tips on avoiding bank charges and increasing interest earnings. The money you save can go right back into your business.

TIPS FOR MANAGING CASH ACCOUNTS

1. Earn interest on your checking accounts. A Federal Reserve study of 30 banks found that a noninterest-bearing checking account with an average balance of \$1,175 generated \$140 a year in total revenue for the bank. After expenses, the bank was left with a 27 percent net profit. Banks use your money to make money, and there's no reason that you can't do the same thing.

Start where you presently keep your operating funds for paying bills, buying supplies, and other day-to-day business expenses. If you don't have an interest-bearing checking account for your operating capital, you should. Minimum balances for these accounts vary from bank to bank, so shop around. There is a lot of competition among banks, and they are constantly offering special deals to attract new customers.

2. Invest excess cash. If you keep hundreds of extra dollars in an account as a cushion, you could be losing out. Assuming you never drop below your required minimum balance, how much additional cash in an account is too much? To find out, do a cash-flow projection that tells you how much money you need to pay bills every month. What's left over, you can invest.

You can arrange to have any excess cash automatically transferred from your check-

ing account to funds with higher yields. Some banks will also transfer money back into your checking account if you do drop below the minimum. Observes Fred Cohen, who heads Peat Marwick's Treasury Consulting Practice, "Most banks offer cash-management services—they're willing to work with small businesses."

3. Avoid fees. Some banks charge so many fees that it's possible for you to lose money. Even some savings accounts incur charges. When shopping for a checking account, ask how much the bank charges to print and process checks and if it is affiliated with an automatic teller network (ATM).



You shouldn't have to pay for the service; however, some ATM networks are now charging per transaction. Using linked accounts, called relationship banking, you can avoid fees and some minimum balance requirements on checking accounts if you have more than one account with a bank.

Citicorp Savings of Illinois, for example, will allow you to earn interest and avoid fees on checking if you hold a combined balance of at least \$5,000. That means if you have a certificate of deposit (CD), a money-market account, and a checking account, you're earning interest in three different places. Chemical Bank in New York offers a similar arrangement with its Chem-Plus account.

This is convenient for you and profitable for the bank, but check to see what rates your bank is paying on CDs and money-market accounts; you might be able to do better elsewhere. For more rate information, look in the Bankquote section of *The Wall Street Journal* on Fridays.

4. Open a money fund. Financial expert Bill Donoghue, a best-selling author and publisher, has long been an advocate of money-market mutual funds for several reasons that banks are reluctant to discuss.

With mutual funds you can usually get better service with no fees, and you're likely to get 29 to 47 percent more yield than from the bank's money-market deposit accounts, Donoghue has found. His *Moneyletter* tracks the highest-yielding money funds. For a free sample copy, call (508) 429-5930.

Tax-free money funds. Sole business proprietors (Schedule C filers) also might find it advantageous to look into tax-free money funds, which pay interest free from federal taxation. Some money funds even specialize in states with high taxes such as California. Donoghue recommends the Vanguard California Tax-Free money-market fund for California residents ([215] 648-6000).

Mutual fund groups like Fidelity Investments ([617] 570-7000) also support their funds with 24-hour service, which means you can get a balance on your account at any time. You can also invest in more than 60 other products, including stocks, bonds, real estate, insurance, and money-market funds. You can usually move your money around by making a call. If you can keep a \$500 balance, Fidelity gives you free, unlimited checking. If you need even more investment-related services, a Fidelity USA or Schwab One (Charles Schwab & Company, Inc.) account links a discount-brokerage service to your money fund.

Out-of-state money funds. Although you can open money-market and CD accounts with out-of-state institutions, be careful. Many of the highest-yielding institutions are also having financial problems—especially savings and loan associations (S&Ls) in the Southwest. Any out-of-state S&L or bank should carry FDIC or FSLIC insurance. If those institutions close because of insolvency, you're insured up to \$100,000, although you might lose access to your funds while the regulators are transferring assets from the failed S&L to a healthy one. If you need maximum liquidity, stay away from risky out-of-state institutions.

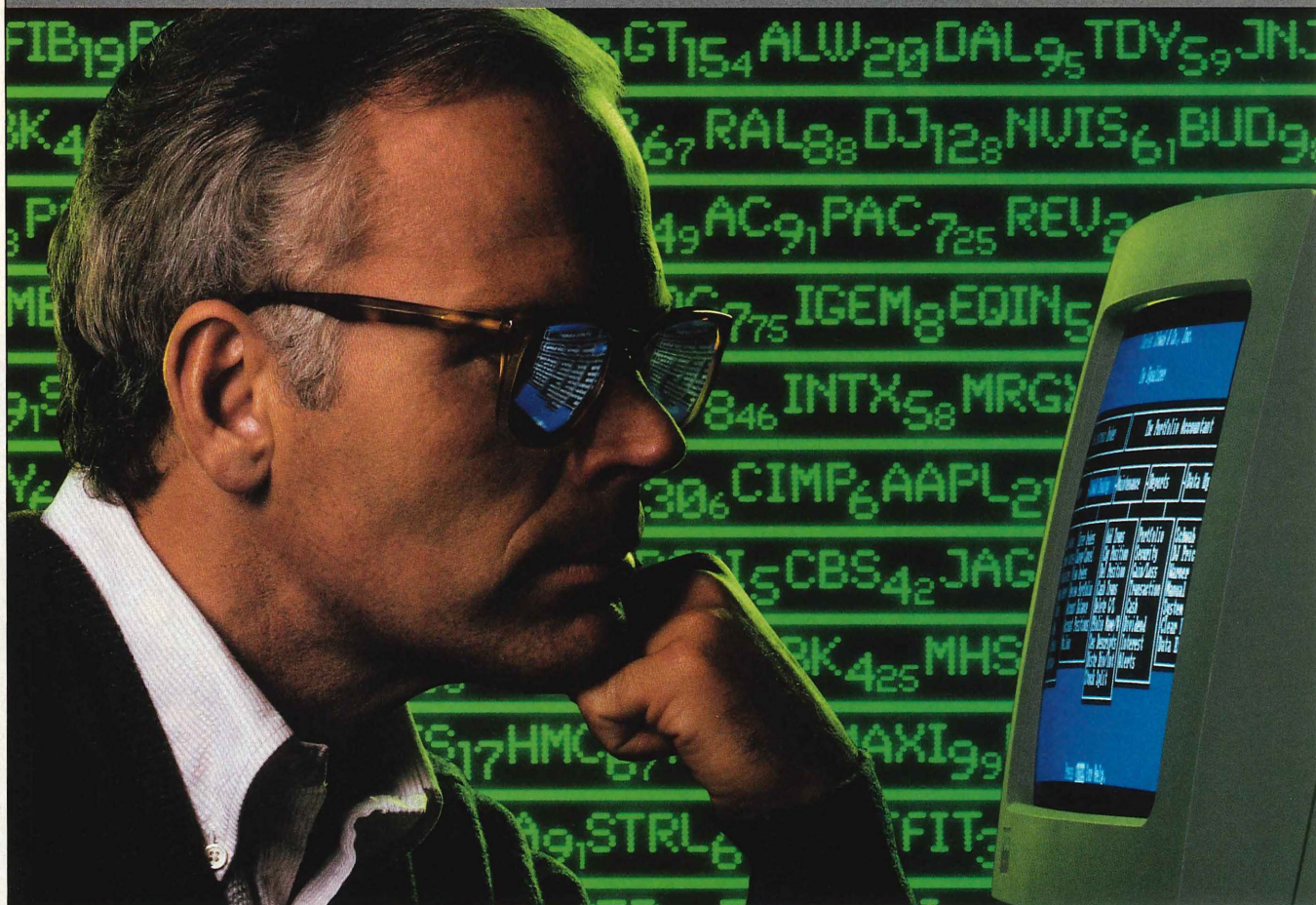
A profitable cash-management plan puts any spare cash to work for you at the highest possible rate. With relationship banking, you can transfer unneeded cash into a higher-yielding money-market account, which could give you more interest than a checking account.

A good, flexible cash-management system also allows you to earn interest in your payroll, general disbursement, and reserve accounts. If you keep large balances in those accounts, the interest could come in handy for paying a few bills or making capital improvements. ■

JOHN WASIK is a freelance writer living in Chicago, Illinois.

ILLUSTRATION BY B. VANDER HUYEN

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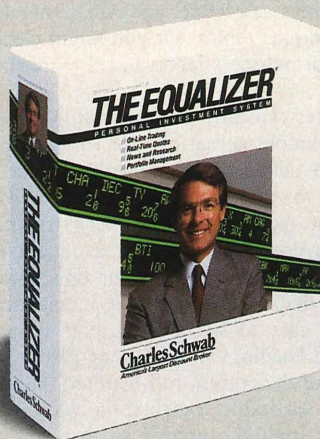


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How to Organize Work And Ideas

BY DONNA BARRON

The Rewards and Pitfalls of Outlining Software

One problem people who work at home face is a lack of structure. Although no program will magically imbue you with motivation, there are computer-based tools that can help you get better organized.

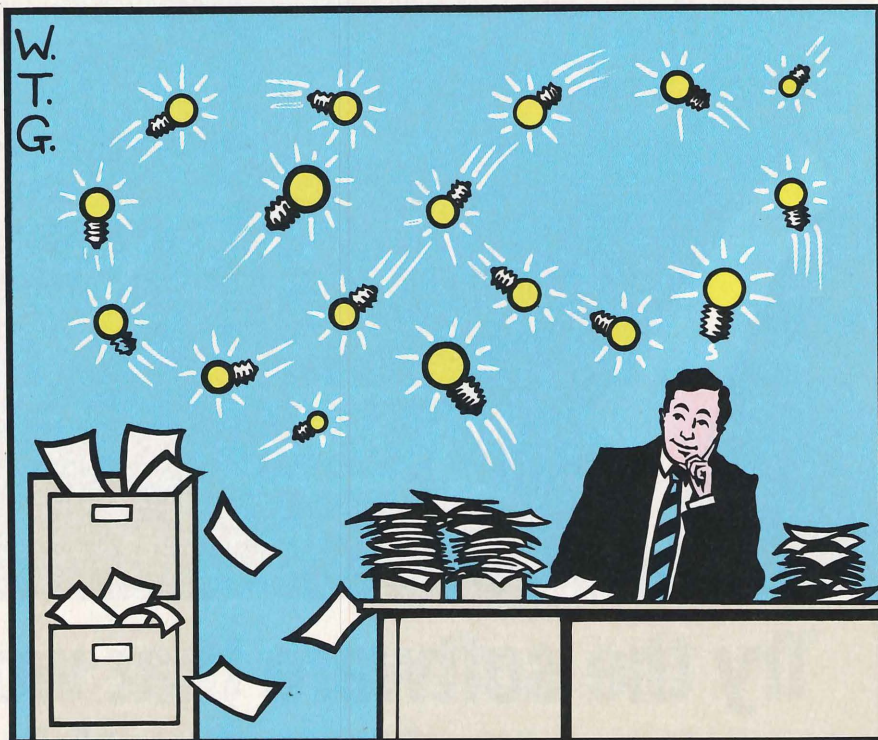
The most basic might be outlining software. In its simplest form, an outlining program lets you structure information as you would with a pencil-and-paper outline. Many outlines are also simply lists and can be used to organize work as well as documents. Therefore, your information may be as vague as a series of random thoughts or as specific as a daily to-do list, meeting agenda, or project-organization chart. Other useful outlines might include notes for a legal brief, items for a word chart in a presentation graphic, subjects to be covered in a book chapter, or facts and figures for a grant or business proposal.

THE STRUCTURED FREEDOM OF ELECTRONIC OUTLINING

The major benefit of any type of outline is that it helps you organize your thoughts, set priorities for your tasks, and create the skeleton on which you can later add the meat of a manuscript or document. An electronic outliner's specific advantage is that text entries are fluid, not fixed. You don't have to scribble notes in the margins or draw arrows to connect noncontiguous entries that really belong together. You can squeeze in topics or headings anywhere they're needed, you can expand or delete existing entries without making an illegible mess, and—if you decide it's organized all wrong—you can completely rearrange your data with just a few keystrokes.

Like a word processor, an outliner gives you the freedom to easily write and edit text. Unlike a word processor, however, the outliner is designed specifically to structure the text you create. Some outliners even let you specify the style that structure will take.

DONNA BARRON writes about computer-related topics for several magazines.



For example, you might choose the Harvard style, which assigns Roman numerals to major headings and letters and Arabic numbers to subordinate topics. Or you might elect to have your outline's labels be all numbers or bullets.

Outlines typically contain multiple levels of indentations to set off the various headings and subheadings. If you've ever attempted to create an outline with a word processor, you've probably been frustrated by trying to figure out how to indent text that's longer than one line or how to edit material that contains multiple indentations. It's very easy to end up with both indentations and headings in the wrong places.

Most of the current full-featured outliners include automatic indentation plus word wrap for multiline entries so that you can make changes without disrupting the outline's structure. In addition, related information is linked together hierarchically. Thus, when you move a headline, all subordinate entries move along with it. You can print out directly from the outliner, and, in most cases, the outline can also be translated to an ASCII text file, imported into a

word processor, and used as the foundation for the final document.

The programs available for developing outlines provide slightly different features. Some—like *PC-Outline* and *SideKick Plus* for MS-DOS and *Acta* for the Macintosh—can run as either independent or pop-up programs, and *Acta* lets you add graphics to your text. With Symantec's three products—*ThinkTank* and *GrandView* for MS-DOS and *More II* for the Mac—you can incorporate documents such as notes, comments, memos, and even complete letters into outlines. *More II* also provides a broad range of features for creating presentation graphics such as slides or overhead transparencies (see "Presentation Graphics" on page 37). The outliner in *Wordbench* (MS-DOS and Apple II) works as part of an integrated package that also includes a word processor and a "note card" database.

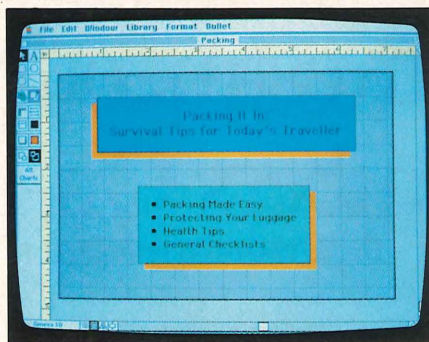
AN OUTLINER IN ACTION

"What's wonderful about a computer-based outliner is that it lets you think the way you think. You can get things down in the rough—which is usually the way they

come off of your brain—and then go back and work over those rough ideas,” says Jane McLaughlin, who uses *More*, an outlining and presentation program for the Macintosh from Symantec (now available as *More II*). “I can just jot down my ideas without having to worry about structuring them. Then, when I’m ready to start organizing, I simply cut and paste to move things where they belong.” McLaughlin and her husband, Riley McLaughlin, are John Riley Associates, a home-based firm now in Olympia, Washington, that creates multimedia computer- and video-based presentations. Jane McLaughlin began working with an outliner about four years ago; before *More* was introduced, she used Symantec’s *ThinkTank 512* (originally published by Living Videotext).

Initially, McLaughlin didn’t prepare elaborate outlines with the software but simply made lists—lists of people to see, things to do, calls to make, and so on. With the outliner’s inherent hierarchical structure, plus *More*’s ability to incorporate complete text documents into an outline, lists can be as simple or detailed as necessary. One of the things McLaughlin likes best about *More* is its capacity to expand or collapse an outline. “It gives me the ability to look at different levels of detail,” she says.

Today McLaughlin employs *More* for a much broader range of tasks. For example, she uses it to write the scripts for her company’s multimedia products. “A lot of our



As a full-featured outliner, More II is superb for organizing work details. The program's additional capabilities let you transform an outline into a work chart with bullets just by clicking on an icon.

Outlining software lets you completely rearrange data with just a few keystrokes.

development is done in *HyperCard*, which lets you move in different directions, or branches. With an outliner I can have the various headlines represent the different branches,” she says. She also uses *More* to prepare proposals for would-be customers. After creating a complete outline of the project for her own use, McLaughlin collapses it so that only the major headings or those areas she wants to include remain visible. Then she prints out the reduced version for the customer. “Subheadings don’t necessarily have to be indented, and indentations are easily removed so it doesn’t have to look like an outline,” she explains.

PROBLEMS WITH OUTLINERS

Outlining can speed up the process of preparing documents and ease the effort of organizing tasks. However, like getting used to a first pair of bifocals or a stick shift, learning to use an outliner requires a little time and a substantial amount of commitment.

“An outliner makes me formalize my thinking,” says freelance writer Dale Archibald of Minneapolis, who is using *Wordbench* to organize a prospective book on the use of computers in tracing genealogy. “For an article of 1,000 to 2,000 words, I would find it overkill. However, when I’m dealing with a highly technical subject and want to make sure I’m covering all the bases, or if I’m working on a long project like a book, the structure the outliner provides can be a big help.”

An electronic outliner is really just an

extension of the pencil-and-paper method of outlining and, despite its obvious time-saving and organizational advantages, it’s not something everyone will be comfortable with.

Aaron M. Cohen is a theater production consultant and writer in New York City who is using *Wordbench* to prepare grant proposals and to organize material for a novel. A long-time adherent of the traditional index-card-and-cut-and-paste method of organizing research material, Cohen found the transition to electronic outlining painless. However, he is quick to point out that many people may find the outliner’s demand for structure too confining for their taste.

“A computer outliner can make the outlining process easier for the person who has used outlines, but it may not be at all suitable for someone who has not done research or organized material in this manner before,” says Cohen.

For many people, learning to use outlines means adopting an entirely new way of thinking and, in some cases, overcoming deeply ingrained habits. “An electronic outliner won’t automatically teach you how to do that,” says Cohen. “You will have to make a conscious effort to change your way of thinking.”

MAKING AN OUTLINER WORK FOR YOU

Part of that effort involves simply learning to use the software. Although it’s helpful to have a “live” project to work on when attempting to master any new computer application, the night before an article or report is due may not be the best time to test out a new outliner.

Because writing is a creative process, the last thing you want is to be distracted by having to think about which key to hit or what command to use when you’re trying to organize your thoughts. If, like me, you are not accustomed to electronic outlining, you might want to break in your new outliner on the back roads for awhile before taking it into heavy traffic. Try Jane McLaughlin’s idea of using it to create some to-do lists, or use it to set up an organizational chart or prepare an agenda for a meeting. Use it as a vehicle for recording random thoughts—jot down some notes after a telephone conversation or prepare some questions for an upcoming meeting or interview.

If you’re comfortable with preparing outlines to organize work, you’ll find that an electronic outliner can provide the structure you’re accustomed to. If you’ve always found outlines too restrictive for the way you work, you may find that an electronic outliner can provide the flexibility a legal pad doesn’t.

Purchasing an outliner won’t guarantee you a clutter-free desk, but it may very well take you one step closer to “one of these days” when you finally get organized. ■

SOFTWARE INFO

MS-DOS

GrandView v1.01 (\$295). System requirements: 320K; two drives; CGA, EGA, VGA; DOS 2.0 or higher. Symantec, (408) 253-9600.

PC-Outline v3.34 (\$195). System requirements: 256K; two drives; CGA, EGA, VGA, MCGA, Hercules; DOS 2.0 or higher. Brown Bag Software, (408) 559-4545.

SideKick Plus v1.01 (\$200). System requirements: 384K; two drives (hard-disk drive recommended); CGA, EGA, VGA; DOS 2.0 or higher. Borland International, (408) 438-8400.

ThinkTank v2.41 (\$195). System requirements: 256K; two drives recommended; EGA; DOS 2.0 or higher. Symantec, (408) 253-9600.

Wordbench v1.0 (\$189). System requirements: 256K; two drives (hard-disk drive recommended); CGA, EGA, MDA; DOS 2.0 or higher (also for Apple IIe/IIc/IIGS). Addison-Wesley Publishing Co., Inc., (617) 944-3700.

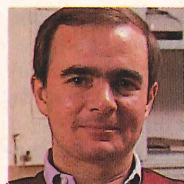
MACINTOSH

Acta Advantage v1.01 (\$129). System requirements: 512Ke; one drive (hard-disk drive recommended); System 3.2 or higher. Symmetry Corp., (602) 844-2199.

More II v2.0 (\$395). System requirements: 1MB; hard-disk drive; System 4.1 or higher. Symantec, (408) 253-9600.

Getting Investment News and Numbers On-line

BY ALFRED GLOSSBRENNER



When it comes to investing, I prefer to make my own decisions. I like to imagine myself as one of those confident, independent-minded people who show up in television commercials for Charles Schwab & Company, discount brokers. In reality, I'm not nearly so self-assured. But I do know some things most investors don't.

I know, for example, that part of what you pay for at a full-service brokerage house is stacks of four-color brochures describing various investment opportunities. (I used to write them for major New York firms and have never been paid better.) You also pay for the research and recommendations of the house's industry and stock analysts. And, of course, you pay for the tune-up on your stockbroker's BMW.

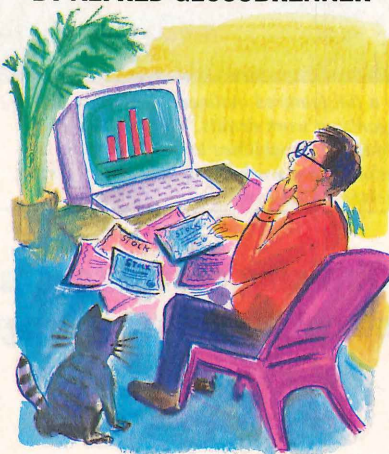
Even more important, most of the information packaged so beautifully and presented so smoothly by a full-service brokerage firm is available electronically.

Getting stock quotes is easy. Virtually every on-line system offers current quotes (usually 15 minutes delayed), and many offer databases of historical quotes as well, so you can track a stock's price over time. But if you want to get at the numbers and reasons behind a stock's selling price, there are at least two databases you should know about—Disclosure and Investext. (*Last month's Finance department described Telescan, a database requiring specialized software.*)

DISCLOSURE

Disclosure gives you the reports of about 12,000 publicly held companies filed with the Securities and Exchange Commission (S.E.C.). They include quarterly balance sheets, annual funds flow, price and earnings information (including dividends paid), three to twelve years of income statements, and two to ten years of balance sheets. The full Disclosure database includes more than 250 variables for nearly every company covered.

ALFRED GLOSSBRENNER is the author of *Alfred Glossbrenner's Master Guide to Free Software for IBMs and Compatible Computers*, *How to Look It Up Online*, and many other books. He can be reached on CompuServe (70065,745) or MCI Mail (AGLOSSBRENNER).



Best of all, Disclosure is available on many on-line systems, including CompuServe, BRS, Dialog, Dow Jones News/Retrieval Service (DJNS), Vu/Text, and others. It would be worth your while to shop around for the best price. For example, assuming a non-prime-time 1200-baud connection, DJNS charges \$1.76 per minute, plus \$2 per company report. CompuServe charges \$.22 per minute, plus \$15 per report. If you take 12 minutes, you would pay \$23.12 on DJNS for the same information you could get on CompuServe for \$17.64.

INVESTEXT

Investext also contains numerical data, but this database's primary focus is investment-oriented news and analysis. Investext offers the complete text of corporate and industry research reports prepared by the world's leading investment banking firms, including Merrill Lynch; Kidder, Peabody; Donaldson, Lufkin & Jenrette; Paine Webber; Smith Barney; and about 50 others.

Brokerage firms and investment banks typically give these reports to only their best customers. More than 11,000 public companies and 53 major industry groups are covered. All reports are signed by the analyst who prepared them, and the information is usually complete and current.

Each contributing firm handles things a little differently. An Investext report might include tabular data on a firm's average return on investment, 52-week stock price range, estimated 5-year growth rate, indicated dividend rate and yield, and more. That information may be followed by an analysis of the company's stock performance, its position in the industry, its proposed acquisi-

tions, and so on.

The numerical projections include revenues, costs, and operating profits for past years and the current year and estimates for the future. The report might conclude with a table showing the percentage change in these and related items.

Investext is available on BRS, Dialog, DJNS, NewsNet, The Source, and through a system offered by the database producer, Technical Data International (formerly Business Research Corporation). Again, prices vary widely.

Let's assume that you will be on-line during non-prime time with a 1200-baud connection. On Dow Jones, you would pay \$17.22 for six screens of information; on The Source, those same six screens would cost a mere \$7.20.

DOW JONES NEWS/RETRIEVAL SERVICE

Both Disclosure and Investext are available on DJNS, but they are less expensive to use on other systems. Still, I say that no serious independent-minded investor can afford to be without a subscription to DJNS, which has successfully placed nearly every database an investor could want under one electronic roof.

DJNS offers every kind of stock quote—Dun & Bradstreet's Financial Records for the financials of 750,000 public and private companies; Standard & Poor's Online for earnings and income estimates; and much more. For comprehensive coverage in this area, only Dialog comes close, but it doesn't have the full text of *The Wall Street Journal* (although it does have an index).

Before making any decision about which, if any, service to use, I suggest you send for information on each of the systems and databases discussed here. You may eventually want to consult others, but you can't go wrong if you start with Disclosure and Investext. On-line information is not cheap. But for an independent investor, databases can be less expensive than full-service brokers and give you a lot more control. ■

PHONE NUMBERS

CompuServe Information Service, Inc., (614) 457-8650; DIALOG Information Services, Inc., (415) 858-2700; Disclosure Inc., (301) 951-1300; Dow Jones News/Retrieval Service, (609) 452-1511; Investext Technical Data International, (617) 330-7878; The Source, (703) 734-7500

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Meet Dr. Database

BY KAREN J. NOVAK

How One Professional Makes a Computerized System Work for Him

Remember Marcus Welby, M.D., the general practitioner *extraordinaire* with the grandfatherly bedside manner? Dr. Welby ministered to the sick, broken, and needy. Doling out commonsense advice to seemingly anyone who entered his home office, he never appeared concerned with the business side of doctoring. How did he do it? It's pretty obvious. With help from finely crafted screenwriting, he tracked patients, collected bills, and followed up on insurance claims when the camera wasn't rolling.

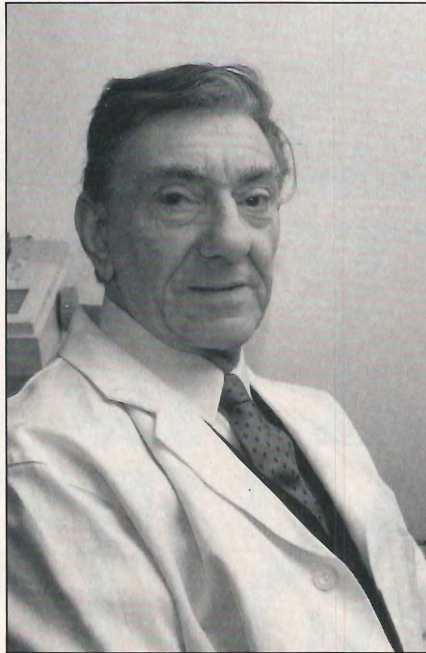
For Edwin Gordy, M.D., a family practice is quite a different story. Operating from his Newtonville, Massachusetts, home office, Dr. Gordy simply could not maintain his practice without the system he created on *RapidFile*. Ashton-Tate's *RapidFile* is a flat-file database that lets him store, arrange, and retrieve information, and fill out reports that extract details from this information. Plus, Dr. Gordy writes all his correspondence, including form letters, with the program's word-processing capability.

GETTING THE MOST FROM THE SOFTWARE

Dr. Gordy's customized filing system successfully takes advantage of database technology's best features: sorts, selects, and screen displays. His system also uses advanced features such as macros (in which a series of instructions are assigned to a single keystroke) and calculated fields (fields whose values are dependent upon values of other fields in the record).

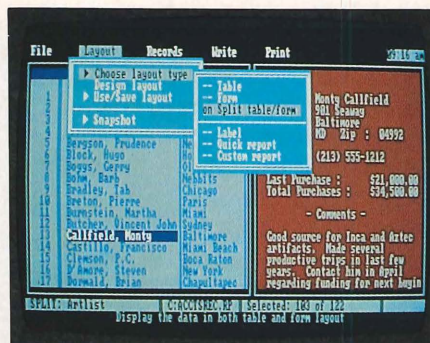
With a good understanding of how to make computers truly useful, Dr. Gordy says, "I have tried to use as much automation as I can get *RapidFile* to perform, since I am not a touch typist. I'm lazy, and I will work very hard to make the thing happen automatically."

Self-deprecating frankness aside, Dr. Gordy maximized his effort at the beginning and created a system that now requires minimal fuss. This demonstrates the essence of good computing: By identifying the paperwork he wanted to automate and planning



the most expedient way to get through it, Dr. Gordy made routine tasks easy to execute. Remember, you can only automate a process whose manual counterpart is already understood.

Dr. Gordy's database consists of two files: an "active" file for unpaid bills and a "paid" file. Although he has 650 to 1,000 active records and 1,500 to 2,000 paid records, he insists that his is "a very small family practice"; a larger practice could easily have three times the volume. How-



By taking full advantage of *RapidFile*'s six ways of viewing data (called layout styles), Dr. Edwin Gordy can run his small medical practice without outside help.

RapidFile v1.2 (\$295). System requirements: 256K IBM PC or PS/2 (384K with DOS 3.2 or higher); two drives (hard-disk drive optional); DOS 2.0 or higher. Ashton-Tate Corp., (213) 329-8000.

ever, each record contains much more than just billing information. Using up to 165 of *RapidFile*'s 250 possible fields, Dr. Gordy handles many processes: billing functions, which contain Medicare, Medicaid, insurance, and direct patient-billing information; and patient data, such as condensed surgical and medical histories, allergies, date of last tetanus shot, and the quantity and reorder date for medication. He notes this information during a consultation and later enters it in the database. Complete medical histories are still stored the old-fashioned way—in manila folders.

HOW HE SET UP HIS FILING

In the active file, each transaction is a separate record. Dr. Gordy uses the date of the original office visit as the reference to complete the billing process. Direct patient billing, Medicare, Medicaid, and insurance filings are separate screens with a common action and reference date. In short, he's created an on-line ledger. When all the payments have come in, Dr. Gordy transfers the information to the paid file with one keystroke combination using a macro he developed. By creating two files, he saves memory and eliminates the need for *RapidFile* to sort through thousands of records for each billing action.

To create a new patient record, Dr. Gordy uses a macro to bring up a standard *RapidFile* feature called a Form. The Form layout is one of six ways the program lets you view information.

For existing patients, he generates a new record each time they visit, and all unchanging demographic information, such as address and birth date, automatically copies into the new records. This procedure is fast and easy, but keep in mind that each time a record is copied, the repeated information occupies more disk space.

He streamlined data entry by making the most of *RapidFile*'s calculated fields. For example, when he enters a patient's birth date, the age field automatically computes and the system clock, in turn, updates. Typing "Miss," "Mrs.," or "Ms." in the salutation field automatically inserts an "F" in the sex field; otherwise an "M" appears.

DEALING WITH FORMS

Filing Medicare and other insurance claims can be a tangle of red tape, but Dr. Gordy was challenged by the prospect of streamlining it. The process is complicated by the myriad requirements of both the private companies and government agencies.

KAREN J. NOVAK, a former librarian trained in database design, most recently used databases to help run the public-relations department of a suburban Chicago software company.

For instance, on many insurance claims, he's required to indicate what's known as a CPT code. The CPT is a numeric code that defines a specific medical procedure and is tied into approved fee schedules. Dr. Gordy set up calculated fields so that he need only enter the type of consultation for which he is seeking reimbursement, and the CPT code and fee are automatically entered. The advantages of calculated fields are easy to see in Dr. Gordy's system. Any fields whose values can be tied together are candidates for the timesaving properties of calculated fields.

Because of a relatively new Massachusetts law, all state physicians are required to complete a Medicare form for each transaction they intend to claim. Dr. Gordy says, "The net effect is that I send a completed form to Medicare. They send it back in approximately 30 to 60 days, informing me that Medicare will allow a charge of X dollars for the service. They pay their fraction. This is a lot of paperwork. All the other doctors had to hire an extra typist to keep up. I have a small practice, and I can't afford to hire people just to fill out forms. In *RapidFile*, you hit a couple of keys and you get what you need."

More accurately, Dr. Gordy *set up* a system in which he hits a couple of keys to get what he needs. Bureaucrats, who are sticklers for forms, wouldn't accept Gordy's basic form of patient records described above. So to file a Medicare claim, Dr. Gordy uses a macro to access a Form worksheet, which he displays as an on-screen "five-by-eight card." Once data entry is complete, he uses another macro to reformat the data for printing on the official Medicare form. He constructed a similar system for direct patient billing, for which he uses yet another home-brewed macro.

DATABASE REMINDERS

In 1976, Dr. Gordy bought a medical practice from a Federal Aviation Administration (FAA) aeromedical examiner. Dr. Gordy became an examiner and liked the idea of tracking his pilot patients. As an aeromedical examiner, he reports results to the FAA when patients have the physicals required to renew their pilot's licenses. Although scheduling the exam is the pilots' responsibility, Dr. Gordy still tracks their exams with *RapidFile*. Since renewals are required at different intervals, depending on the class of license, he has set up his fields accordingly. Then he notifies the aviators that their licenses are about to expire. "My wife writes a longhand letter," says Dr. Gordy, "because she likes to. We like to add the personal touch to this sort of thing."

Although Dr. Gordy only sends reminders to the pilots, he is also equipped to alert all patients who are taking a particular drug. Suppose a drug is recalled, or the FDA is-

sues a warning on it: Dr. Gordy can select all patients on the given medication and notify them accordingly. Dr. Gordy would like to hand his patients straightforward medication schedules. Someday, he wants to have an extra keyboard, monitor, and printer in his consulting room, which he would link to his PC. With a patient still in the consulting room, he could print out the prescription.

MORE RAPIDFILE HELP

Dr. Gordy also takes advantage of two other standard *RapidFile* features: Table and Quick layouts. He uses the Table layout as a ledger sheet; he sets up the money values on the left and tracking indicators, or flags, on the right. The indicators, either a 1 or a blank space, show whether or not a bill has been paid. To track bill collection, either he selects all records matching one or more flags, or he manually scrolls through the records, picking out items of interest—such as a large overdue payment—on sight.

Dr. Gordy devised a Quick report "snapshot" to compare the number of patients he sees in a specific month from one year to the next. "I just run it off and print it to screen. It's a fast way to select, sort, and add." Because that's all he wants to do with his snapshot, paper printouts are not needed.

WHERE TO GO FROM HERE

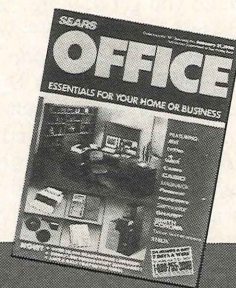
As far as Dr. Gordy is concerned, the only thing that's missing from *RapidFile* is an automatic lookup feature, or a lookup table. This is a set of records from which you can select individual values that correspond to the value you have already entered. For instance, he'd like to automatically retrieve the official numeric code for a particular condition, like asthma, as soon as he types it. This would further simplify the insurance claim process, since doctors are now required by Medicare and insurance companies to write the diagnoses and the corresponding diagnosis code. Now, each time he enters "asthma," he must look up the code and enter "493.9." He says, "I could make a separate database—it's doable, but it would be painful," and adds, "and I hear [a lookup table] will be included in the next release."

For those of you feeling daunted by the seeming complexity of automating the chores of your particular business, always keep this in mind: Anyone who can articulate his or her needs, follow instructions, and understand the limitations of flat-file databases can do what Dr. Gordy has done. Without prior experience in computing, Dr. Gordy bought his first IBM for word processing in 1981. Now he says he couldn't stay in practice without it. Whether you're running a public-relations firm, a mail-order business, or a medical practice, the same computing principles apply. ■

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CIRCLE READER SERVICE 41

JULY 1989 25

How Ma Bell Can Help You Sell

BY RONNIE GUNNERSON

Telephone Sales Are A Fast, Low-Cost Way to Get More Business. Here Are Some Proven Telemarketing Tactics

For a few cents a minute, you can reach out and touch someone. But for a few cents more, you can reach out, touch, and *sell* someone.

Telephone sales, better known as telemarketing, "is the fastest-growing new marketing discipline in the country," says telemarketing consultant Sally Saunders, president of home-based S.S. Saunders & Associates, Inc., in Moscow, Idaho. You can reach far more customers over the phone for far less than the cost of a field sales call. Big business is learning its lesson: By 1995, American corporations will be making 31 percent fewer field sales calls than they do now, according to Arthur Andersen & Company.

By then, you could be making millions over the phone. In four years, a California businessman established a \$400 million stronghold in the personal-computer industry selling computers by phone. He side-stepped dealers and undercut them by as much as 40 percent.

WHERE TO GET TRAINING

Telemarketing isn't as simple as it seems. Professionalism is paramount and training imperative.

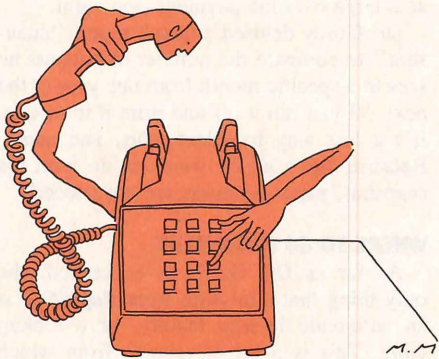
Where do you get training? Saunders recommends two how-to tools—*Selling on the Phone, A Self-Teaching Guide* (John Wiley and Sons, 1985), by James D. Porterfield, and an American Management Association series of audio cassettes and workbooks called *How To Be a Successful Telephone Sales Representative*, by Gail Cohen. The series is available from the A.M.A. Extension Institute in Saranac Lake, New York; (518) 891-1500.

In addition, some telephone companies—AT&T, for one—offer fairly inexpensive telemarketing training classes. Call the AT&T business office or your local telephone company to find out if such classes are available in your area, advises Saunders. She also suggests local community-college or university-extension programs.

THE BEST METHODS

For those businesspeople who will do their own telemarketing, Saunders offers a few basic tips: Plan your call well in advance. Decide how you will begin, which questions you will ask in order to qualify the customer, and how you will handle the most common questions about your product. And be sure to create a concise and engaging message.

If you decide to hire help rather than go it alone, use the same materials to train your employee that you use to teach yourself, Saunders suggests. Before you hire anyone, however, interview applicants over the phone and evaluate them as your customers



will. Are they polite? Friendly? Concise? Are their selling messages appropriate?

"Because someone has worked in telemarketing before doesn't mean he or she will be a quality telephone salesperson," warns Saunders. "Many companies give their telemarketers scripts to read verbatim: You want to be sure you're hiring a salesperson who understands how to personalize a structured call."

If you are targeting residential markets, plan to pay a full-time telemarketer a base of \$14,000 to \$20,000 plus a bonus; if you're pitching businesses, the base salary should be \$18,000 to \$24,000, plus a bonus, says Saunders.

What if you don't need someone full-time? You might try part-time or freelance telemarketers. While paying an underemployed actor, college student, or out-of-work salesperson at an hourly rate plus commission costs far less than providing for a full-time employee, beware of the hidden costs: You're less likely to get a commitment and, thus, you may have to spend an inordinate amount of time training part-timers.

There is another alternative—an outside service agency. Most are set up for high-volume jobs, but those with fewer than 35

workstations might be willing to accept smaller clients. (In telemarketing, the term *workstation* is used instead of *employee* because many agencies fill one full-time slot with two part-time workers.)

To find an agency, contact the Direct Marketing Association (6 E. 43rd St., New York, NY 10017; [212] 689-4977) or the American Telemarketing Association (5000 Van Nuys Blvd., Suite 400, Sherman Oaks, CA 91403; [818] 995-0905).

Service agencies usually charge a \$1,000 to \$3,000 setup fee, then bill you \$30 to \$50 per hour. A smaller agency may be willing to reduce its fee in exchange for a percentage of sales.

"Service agencies understand the discipline and can give you counsel," says Saunders. "They rotate employees—a telemarketer usually burns out after four hours. Agencies also provide coaching sessions and are set up for quality control."

If your sales are short-term or seasonal, your best bet is an agency, she says. Otherwise, you would either be investing your own time to train a short-term employee or keeping someone on salary who works only part of the time.

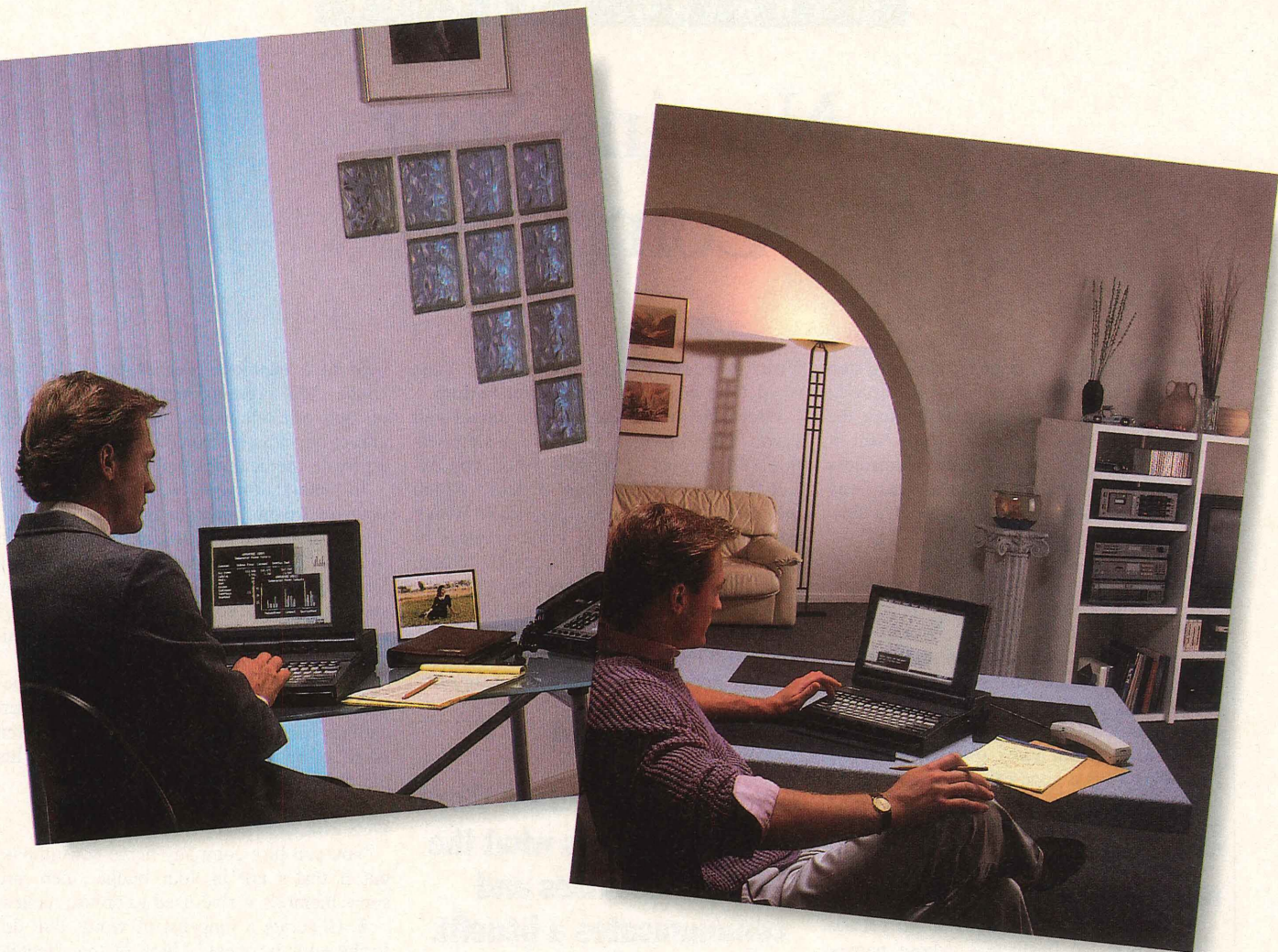
The downside of agencies? "They won't be as familiar with your product as you are," says Saunders. Nor can they shift gears as quickly as you might like, says Jim Kirkwood, publisher of *TravelQuest* video magazine in Manhattan Beach, California, who has used both an agency and an in-house staff. "You have more control when it's in house," says Kirkwood. "I can test different scripts and change things daily if I want to. With an agency, you can't change as quickly because you don't get the data back fast enough."

Kirkwood says the ideal would be a combination of the two, and that's what Saunders recommends, especially if you are targeting a broad base. "If you're going after a large area, an agency could identify and qualify leads and your inside person could follow up and close the sales."

Whichever approach suits you, Saunders warns you to remember one thing: "Sales calls are only successful when they are followed up on."

Whether the next step is to send a brochure, set up a meeting, or talk to someone else in the company, make sure you have the time and resources to pursue all of your sales leads. "As tempting as it is to drum up a lot of leads," says Saunders, "don't generate more business than you know what to do with." ■

RONNIE GUNNERSON is a contributing editor for HOME-OFFICE COMPUTING.



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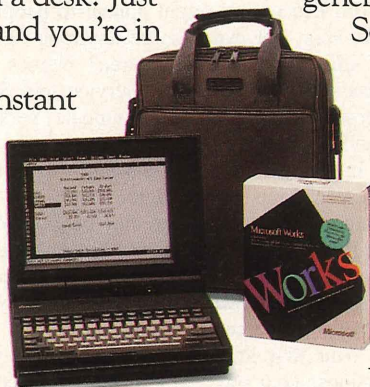
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CIRCLE READER SERVICE 47

Naming Your Company



A critical marketing step for any start-up service enterprise is naming the company. And even if you've been in business for a while, you may want to consider a new name if your focus changes.

A name for a service business such as word processing, accounting, or tax preparation should make people say, "That's just what I've been looking for!" If your business name is so nondescriptive that it elicits no more than mild interest or polite nods, you should consider a name change. We know designing and printing new letterhead is a headache, but think of it this way: A name change is a good excuse to remind old customers what you do; and attracting just one or two new customers will probably pay for the inconvenience.

THUMB THROUGH THE YELLOW PAGES

A good place to find ideas is the yellow pages. Look for businesses whose names convey a professional and serious image. Some names make a business seem amateurish; others are vague and give potential customers no idea what a business has to offer. Here are the listings for word-processing services from a Los Angeles telephone directory, with a few of our own thrown in: ABC Services, Lisa's Word Processing Service, Affordable Word Processing, Manuscript & Thesis Service, The ASAP Word Processing Company, Nunn Better, Ashley-Wells & Company, Sue's Secretarial Service, Autoclerk Services, Professional Transcribing, Britannia Secretarial Services, Typefast Word Processing, Compu-Clerical WP & Secretarial Services, Westside Word Processing, Economy Typing Service, Word Factory, The Electric Word, Word

PAUL & SARAH EDWARDS, whose business is called *The Home Office Information Company*, are the authors of *Working from Home, Everything You Need to Know to Live and Work Under One Roof* (Jeremy P. Tarcher, 1987) and the new audiobook, *How to Succeed at Working from Home* (TDM/McGraw-Hill). They also cohost the "Home Office Show" on Business Radio Network. Contact them on the *Working From Home Forum*, which they operate on CompuServe (GO WORK).

Wise, Edit, Etc., Word to the Wise, Last Word, The Word Out, and Letter Perfect.

Which business names would attract you if you were hiring a word-processing service? What level of quality would you expect from each? What level of fees? Which ones seem to be low-rent operations? Which seem to be professional? What services or benefits do the names suggest? Which names are you likely to remember?

The names we think will attract business are Affordable Word Processing and Typefast Word Processing. They tell what the business does and communicate a benefit.

A name like Typefast Word Processing tells what the business does and communicates a benefit

Names like Ashley-Wells & Company and ABC Services tell us little about the business. Ashley-Wells sounds expensive, but what will the high price buy you?

Professional Transcribing is more specific, but if you were seeking a medical transcription service, wouldn't you call a medical-transcription service first? Westside Word Processing might appeal to people in that area, but can it serve anything outside of this one geographic area? Names like Lisa's Word Processing Service and Sue's Secretarial Service communicate personal service, but they sound low-budget.

In choosing a name, consider the customers you have now and the new ones you want to attract. What are they buying? What do they need and how can your name communicate that you will meet these needs? What is your competitive advantage? What will people remember?

Your first impulse may be to give your business your own name. That's the accepted practice for professionals like lawyers and accountants, and it's appropriate when you bring an established reputation in your

field to a business. For example, Dr. Art Ulene, who presents regular health features on network television, would immediately attract business by using his name to reopen a private medical practice.

In general, though, we don't think using your own name for your business is a good idea. Your name is yours for the rest of your life, but your business may not last that long. What happens if the business is not successful? You've linked your name with a failure, which could hinder your next business.

Or, what happens if the business is successful, you sell it, and then want to start another company under your name? Warren Avis, of rental-car fame, was sued by his old company when he tried to do that.

TIPS FOR CREATING A NAME

You can hire company-name consultants, but if that's not in your budget, here are some methods we've used to devise names:

1. Generate a long list of words that describe your business. Think of the clientele you serve, results you produce, products you offer, the image you want to project, whatever you associate with your business.

2. Piece these words together. Play with them. Consider phonetically pleasing names and words that make up an acronym.

3. Select the best names you're considering. List them on a sheet of paper. If you have a laser printer and advanced word-processing software, experiment with different type styles. Ask 25 customers or prospects which company they would be most inclined to contact and why.

If you want to change an existing name without wasting supplies and previous marketing efforts, print the new name you've selected on your existing materials as a slogan or tag line. For example, ABC Word Processing becomes ABC Word Processing, The Word Factory. Then when you run out of your supply and have new materials printed with the new name only, your customers will already be familiar with it.

The most effective service-business names identify what you do, stand out from the competition, and are memorable—not too short or too long, and easy to spell and pronounce. A good name can be one of your strongest marketing tools. ■

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Number 14

Melody Records

WHERE THE HOTTEST HITS HAPPEN

Retailers Reprise Rockers

ful of Melody Record's president of Marketing, has said, "this is just the tip of the oldies iceberg." Which will look good on Melody's bottom line.

On the same note, another group of previously unreleased recordings by many of these artists will soon be available. Discovered by Melody Records' archivist Rip LaStrange, these new-found old sounds will be available as "Raw Rockers."

One unique feature of this new release will be its denim cover, with copper rivets at the four corners, a pocket and a leather patch which will be similar in design to the Levi's denim jeans so popular in the 1950's. (cont'd, page 6)

CHORAL CONVENTION COMING

Melody is proud to be a part-sponsor of the annual "Sing It Sister" convention of international women's choral groups. This world-renowned confab brings together some of Melody's most deserving artists in a spotlighted forum that will be satellite broadcast to the USSR, Bulgaria and Sri Lanka for the first time ever, for a projected total of 37.5 million viewers. It's a red-letter event for Melody's own distinctive song stylists, the Des Moinette

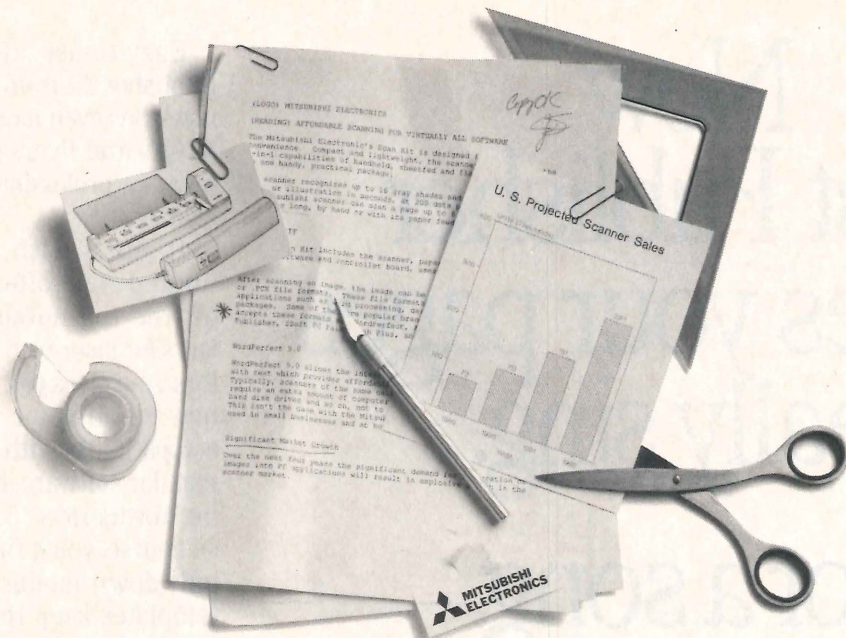
Triplettes, a chorus of 21 women made up of 7 sets of singing triplets from Des Moines, Iowa. (cont'd, page 4)

DISTRIBUTOR B.L.U.E.S.?

To keep you up to date on industry trends, Melody Records' CEO Johnny Melody reports many distributors' profit margins are narrower than ever, due to increased vinyl costs and strong competition from CDs and cassettes. Melody says, (cont'd, page 2)

CHART TOPPERS

For the second week running, Melody artists show strongly in the top 20 on country, pop and heavy metal charts. This week, country singer Sugar Blues sweetens her position at #19 with her latest, "Honey, Why'd You Go So Sour?" The WheelWells roll up to #12 on the pop charts with "Rocker Arm Assembly." And moving to #20 with a bullet in metal is BulletHedd with their latest single, "Bulls-eye." BulletHedd is an L.A. band that's new to the Melody label and showing a lot of promise.



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CIRCLE READER SERVICE 38

Bringing Real-Estate Profits Home

*How to Get in on the Ground Floor of a Business
Where the Sky's the Limit*

BY PETER MILLER



What surprised Kathi Robinson was that it took only a year. It was in 1977 that Robinson, then an administrative assistant at a Minnesota children's hospital, began looking for a new career. She was intrigued by a friend's husband who went from novice real-estate agent to top seller in just 12 months. "You ought to try it," he said. "With your drive and ability, you could reach the top."

The idea stayed with her. When Robinson and her husband moved to the Virginia suburbs outside Washington, D.C., she saw an advertisement for a career night at a real-

estate office and decided to find out more.

Today the 38-year-old mother of two and associate broker with Coldwell Banker does much of her business, which could total \$5 million in 1989, from her home office.

"When I speak to people," says Robinson, "I tell them to call me at home. I'm rarely at my Coldwell Banker office."

"Their reaction? They like the idea. I follow it up by telling them I have a personal computer and I'm hooked into the multiple-listing services."

Robinson is one of a growing number of people who have combined real-estate careers with home offices and modern technology. The result is a hybrid, a business that unites the tradition of personal service with the application of front-line technology to produce big-time profits.

According to the National Association of Realtors, approximately 20 percent of the

PETER MILLER works at home as a real-estate broker, business consultant, and freelance writer. His books include *Successful Real Estate Investing*, *Successful Real Estate Negotiation*, and *The Common Sense Mortgage*, published by Harper and Row.

entire gross national product is real-estate related. Go anywhere and there is property to be bought or sold. Individual transactions commonly generate thousands of dollars in fees, charges, and commissions for realty professionals.

More than 2.5 million people in the United States hold real-estate licenses. Although not everyone who holds a license is active or successful, many people are—including professionals who use home offices.

- In Westchester, California, just west of Los Angeles, agents Greg Wynne and partner Robyn Ottoson, who work with the Marina Del Rey office of the Jon Douglas Company, handle 25 to 40 transactions a year in a market where \$300,000 starter homes are common.

- Outside Chicago, in the suburb of Rolling Meadows, broker Dennis Gillig, with the Liberty Investment Group, specializes in the exchange of commercial properties, million-dollar transactions that cut tax bills for savvy investors.

- In Alexandria, Virginia, Larry Straub, an agent with RE/MAX Horizons, assists others in the purchase and sale of real estate worth \$5 million a year.

That some people have been successful does not guarantee that everyone with a realty license will join the ranks of the rich and famous. But for those with a modern home office, few enterprises hold more promise than real estate. It offers flexible hours, encourages personal initiative, and often allows home-based entrepreneurs to generate annual sales in excess of \$1 million.

THE APPEAL

In a society where people are measured by diplomas, degrees, and credentials, real estate is attractive because access is wide open. State educational standards vary—40 to more than 135 hours of classroom training typically are needed to obtain an agent's license. Capital requirements for new agents rarely amount to more than several hundred dollars.

Not only is the real-estate business easy to get into, it is also highly lucrative, flexible, and lends itself well to home offices and modern technology. Here's why:

First, real estate is a 24-hour business, which means that agents and brokers with home offices can be productive and on duty without being tied to formal schedules or commuting to a central business location.

Second, there is plenty of room in the real-estate industry for both full-time and part-time agents. Compensation is based on performance, not hours. Whether it takes one day or five weeks to sell, the commission for a \$100,000 house is the same. And since commissions are typically based on a percentage of the final sale price, the fee for a \$200,000 home could be twice as large as that of a property selling for \$100,000—even if no additional time, effort, or energy

Agents can set their own hours, vacation at will, work in teams, work alone, and do at least some of their work at home.

is required.

Third, real estate is a business where obtaining, manipulating, and packaging information is crucial to success. With computers and modems, brokers and agents can quickly review past sales, check current listings, keep mailing lists, figure closing costs, and produce advertising materials.

And fourth, having a real-estate license can put money in your pocket even if you don't sell someone else's property. I recently moved and collected a \$6,900 credit at closing just because I had a broker's license.

BROKERS VS. AGENTS

Real-estate marketing is divided into castes. At the top level are brokers, individuals licensed by the state to operate their own businesses or work for other brokers. The lower level is reserved for agents. Agents must be licensed, but an agent's license allows them to participate in real-estate deals only if they work through a broker.

Because employee turnover in the real-estate industry is so great—20 to 25 percent a year according to many observers—brokers are forever searching for new agents. Career nights, career-development programs, and tuition assistance are common.

Brokers want new agents because each agent is a potential source of income. Agents usually divide fees with brokers, and in areas where 6 percent commissions are common, the agent who lists and sells a home for \$150,000 will split a \$9,000 commission with his or her broker.

Although a broker's license is more valuable, the value of an agent's license should not be underestimated. As agents gain experience and increase sales, they get a larger slice of each deal. Not only do commission splits improve, but eventually the agent's share is arguably worth more than the broker's portion because the agent, after all, is not paying for the office, advertising, or any other costs required to run the business.

Brokers are willing to pay top dollar for good agents because the real-estate industry places a premium on productivity. Brokers use successful agents to draw new recruits—

agents with low commission splits that generate high broker profits.

Having many agents has another benefit for brokers. We live in a mobile society, and the broker with many agents knows that some portion of his or her staff will move in the next 12 months. The broker also knows that every agent has a circle of friends and neighbors and that some of these people will move. In effect, having many agents provides an internal source of listings and sales.

In addition to making a distinction between agents and brokers, real-estate licensing laws say something else that should interest home-based entrepreneurs. In many jurisdictions, brokers have traditionally been required to have a commercially zoned place of business. Thus, while you can be licensed as a doctor, dentist, or lawyer on the basis of competence, to be a broker in an urban or suburban setting, you also need a business office. So where do home-based entrepreneurs fit in?

PROS AND CONS OF WORKING FROM HOME

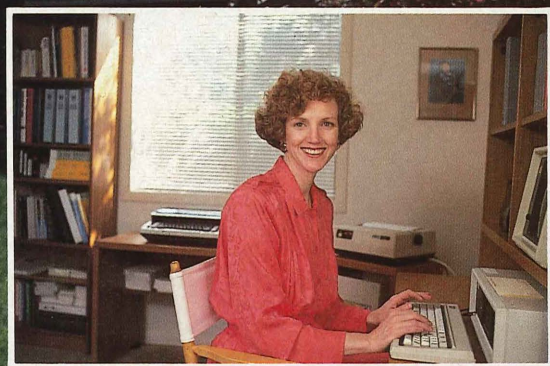
Although brokers must have an office where realty licenses can be displayed, the business of taking listings, showing homes, and closing sales is frequently done off-site. In addition, many of the nation's 1,000 multiple-listing services are computerized and accessible by modem, which means that up-to-date marketing information is readily available to brokers and agents with home offices. "It's so convenient," says Greg Wynne, "to get up in the morning, turn on the computer, and have the day's news from the local multiple-listing service printed out by the time I'm done taking a shower."

Wynne also finds that his home office is an ideal place to brainstorm: "It's a place to reflect, to practice, to make a mistake." He does not invite prospects to his home office because he feels that customers' decisions may be based on his property rather than the one he is trying to sell. If his house is nicer than a buyer's home, the purchaser may feel inferior. If the buyer's house is better, he or she may prefer an agent with the same economic status. In either case, the agent loses.

Kathi Robinson also does much of her work at home and typically meets customers at client properties, her office in Fair Oaks, or other Coldwell Banker offices. She also relies on the corporate office for access to expensive resources, such as directories, that are not cost-efficient for an individual broker.

In theory, brokers could require agents to work given hours from a formal office setting, but such demands are both unlikely and impractical. Agents may work under the authority of a broker, but they are usually independent contractors working for commission rather than employees.

Brokers prefer independent contractors because they cost less. Call an agent an employee, and suddenly brokers are respon-



Because Coldwell Banker agent Kathi Robinson works at home, she is better organized and can concentrate on giving her clients personal service.

sible for collecting taxes, paying unemployment insurance, and providing benefits.

Since agents are independent, a broker's authority to supervise is limited. Agents can set their own hours, vacation at will, work in teams, work alone, and do at least some of their work at home. Requiring agents to work a given number of hours or to work entirely from an office setting might suggest that the broker is exercising a level of control normally associated with employment and the obligation to pay a variety of taxes—a suggestion most brokers strongly avoid.

In addition, brokers with many agents need big offices, and big offices mean big rents. Most brokers would rather have smaller offices where agents share desks, which requires agents to have an alternate work space.

WHERE DOES TECHNOLOGY FIT IN?

If home offices for real-estate professionals are practical and even necessary, what computers, software, printers, and related equipment does one need?

Marketing. "If I have a bright idea at 10 o'clock at night, I can sit down at the computer rather than run into the office," says Larry Straub, 42. He uses a 20MB Macintosh SE, LaserWriter Plus printer, and Aldus PageMaker software to write a monthly newsletter which is mailed to 1,700 addresses in his "farm," the term brokers use to describe a territory. Straub creates the letter at home and then sends it to a mailing service, which makes copies, folds them, adds labels, and takes them to the post office.

Brokers must describe their listings as clearly as possible; Straub uses a Microsoft

Excel spreadsheet to organize the details of a property and create marketing materials. A typical form, for example, shows the list price, down payment, mortgage amount, and cash required to close for each listing. Then, using current interest rates, Straub projects the monthly payments for fixed rate and adjustable loans. He also includes taxes, insurance, homeowner dues, and any mortgage insurance costs.

By knowing monthly costs, Straub can determine the amount of income a prospect would need to buy a property and he can project a buyer's potential tax benefits.

"Using different fonts," says Straub, "allows me to highlight certain facts and figures." For example, a buyer concerned with monthly expenses might receive a sheet where monthly costs are emphasized while someone with an interest in closing costs



Craig Harrington regularly visits appraisal sites, but most of his work is done in his sunny, 1,100-square-foot home office.

would find that information in bold type.

What Ifs. Dennis Gillig, 47, began his real-estate career in 1974 and by 1977 was using one of the earliest personal computing systems, a Radio Shack TRS 80 Model I with a tape recorder to store data.

Back then, says Gillig, "A home office provided much-needed cost advantages." However, as Gillig's business expanded, his use of his home office gradually changed. Today, most of his management, development, and brokerage business is conducted from a formal office. But it is in his home office that Gillig develops business strategies. "The most important thing in my business," says Gillig, "is quiet time, to analyze problems and see where I'm going."

Gillig uses an IBM PC-compatible with Microsoft *Excel* spreadsheet to consider the alternatives. What if the purchase price were lower? What if rents were higher? What if repairs were more costly than first anticipated?

Business Management. Kathi Robinson uses her Compaq Deskpro and a modem to access the local multiple-listing service. The \$65 monthly fee allows her unlimited time on the system and access to all of its functions—current listings, past sales, and loan-amortization schedules, among others.

She also uses her system for a variety of business-management and marketing functions:

- She has a growing database with close

to 1,000 names of past and potential clients. Now the names are used to produce mailing labels for a monthly newsletter, but Robinson envisions a system that will list housing preferences, children's names, birthdays, anniversaries, and other information.

- She uses *PFS: Write* and *The Print Shop* to produce information sheets for each listing.

- She prints a daily to-do log and files old logs in a three-ring binder.

- Robinson is now composing a letter that explains how lenders and underwriters work. It will provide buyers with a list of the paperwork required for a loan application.

- She is also working on a progress chart

for each deal that will show, among other things, when contracts are ratified and when settlements are scheduled.

Time Management. Greg Wynne uses technology more gingerly. He believes the computer is important—he has an Epson Equity II with a 20MB hard disk and a Toshiba 321 printer in his home office—but feels brokers and agents should use them with care.

The trick, says Wynne, “is to be computer efficient, not just computer literate.” Spend too much time with a computer and you have less time for selling. Computing “drove me crazy at first,” Wynne noted. “I had to hire a tutor to help me become efficient.”

Today Wynne uses his computer for business correspondence, fliers, buyer closing costs, and marketing materials. His computer is connected, by modem, to two multiple-listing systems and to a service that reports final sale data from official records.

Real estate is a business that combines the tradition of personal service with modern technology to produce big-time profits.

With these services, Wynne can check addresses on a given street or subdivision to compare prices. Or he can use the system as a marketing tool to find everyone who bought a home five years ago and might be

ready to buy again in southern California's fast-moving housing market.

Wynne's partner, Robyn Ottoson, says, “If I didn't have a home office, I'd never see my home. I'd never have a sense of balance. I'm on call 24 hours.”

Ottoson, 33, used computers in college and had a home office before entering the real-estate business, but says that a home office is not a substitute for her office in Marina Del Rey.

“Networking with colleagues at the office makes me a better agent,” she notes. “The computer allows me instant access, but a person offers more.” Ottoson—who listed a \$27-million commercial building last year in addition to her residential work—feels that 10 percent of all real-estate professionals capture 90 percent of the business, productivity she attributes in part to using computers. “If we didn't have the computer, I don't think we'd have the competitive edge we have right now.”

Tips for New Agents: A Broker's Dozen

If you're just starting as a real-estate agent or thinking about becoming one, the following tips may help to make your entry an easy one.

1. Gather information. Talk to as many brokers and agents as possible. Brokers often hold seminars on the joys of real estate to lure new agents. A lot of good information can come with the sales pitch. Attend open houses listed in the weekend classifieds or visit real-estate offices to observe agents at work. Look for brokers who want new agents and who are willing to train you, either in organized classes or with individual counseling and tutoring.

2. Find out the licensing requirements. Brokers, local real-estate boards, and state realty commissions can supply a list of basic requirements, including the number of classroom hours needed to take the state-sanctioned examination.

3. Take the required course. Depending on the state, the course may be given by community colleges, independent proprietary schools (schools run for profit), subsidiary schools (schools associated with a given brokerage firm), or local real-estate groups. Ask about costs, materials, the percentage of people who usually pass the class, and the percentage of people who pass the state examination after taking the class. Note that

classes are often available at nights and on weekends. In those jurisdictions that require 40 to 45 classroom hours, courses are sometimes condensed into one week.

4. Look for a free ride. Be aware that to attract new agents, some brokerage firms will pay for required course work or will reimburse you for course fees once you make your first sale.

5. Speak to brokers and agents who work from home offices. What are the advantages and disadvantages of working from home? What computer services do they use, and how much do they cost?

6. Consider both part-time and full-time work. Brokers often prefer full-time agents; but many are open to part-timers, especially those who are now active in other careers. They figure, if you work at another job, your colleagues may become your clients.

7. Get to know your local market. How are properties priced in your neighborhood compared with surrounding neighborhoods? What features are important—school districts, commuting, shopping, and religious centers? What makes neighborhoods unique, interesting, and attractive?

8. Tell the world about your new career. Speak to friends, neighbors, relatives, busi-

ness associates—anyone might be a potential client or source of referrals.

9. Keep a high profile. Join clubs, local associations, PTAs, and other local groups and run for office. You'll climb the organizational ladder and gain greater exposure.

10. Ask for “floor duty” with your broker. That is, work the phones and answer questions. Many callers will want to buy or sell properties.

11. Get to know local attorneys, appraisers, structural inspectors, termite inspectors, and loan officers. Not only can you learn from such professionals, but any deal is likely to require their services.

12. Don't stagnate. To keep up with changing trends, laws, and new competition, you'll need to continue taking courses and attending seminars. The more current you are, the better you'll be able to serve your clients. You will also be able to compete more effectively for listings and sales.

13. Look for the best deal. Get the details on commission splits for listing and selling properties. Ask several brokers how much business you need to do before your share of the commission increases. Also, ask a broker about the cost of belonging to local real-estate groups and participating in multiple-listing systems.

OTHER BUSINESS OPPORTUNITIES

Although brokerage is the entry point for most individuals interested in real estate, there are other ways to succeed.

For Ronald Way, a Santa Barbara architect, 1985 was a very good year to start a real-estate-related business. Beginning in an extra bedroom in his spare time, Way developed a computer program that analyzes real-estate investments. He sold \$71,000 worth of the software, now called *Real Estate Master*, during the first year. By the second year, sales reached \$211,000, and by the third year, Way's business, Tronsoft, Inc., grossed \$781,000.

Real-estate investors enter basic information, and the program provides cash-flow and profit projections, partnership and syndication scenarios, pretax and after-tax projections, and banker-ready printed reports. In addition to the software, the package (\$1,495) includes a 280-page manual. Way claims his system is unique because it allows individuals to walk through a prospective investment—anything from a single-

Because employee turnover in the real-estate industry is high, brokers are always searching for new agents.

family house to a large commercial project—with a series of questions and answers.

Part of Way's success in selling an investment package can be found in his marketing approach. "Quite by accident," he says, "we were noticed by a seminar company." Now his firm gives seminars around the country. The results, says Way, are substantial: His organization sold more than \$400,000 worth of products at one seminar.

Way also devised a shrewd approach to direct-mail advertising. Rather than rent a mailing list and face large costs up front, he pays a portion of net sales. If the list is profitable, Way pays well for the names. If the list is not productive, his costs are minimal. A third marketing idea was to sell the combination of software and computers to become a "value added reseller" for Apple. Way sells complete packages that combine his software with appropriate Macintosh hardware and accessories.

In 1989 Way expects to sell software and products worth \$3 million. He now has 12 employees in Santa Barbara, 3 in Salt Lake City, 22 independent sales agents around the country who market his wares, and two WATS lines ([800] 451-8585, or [800] 237-7316 in California). Yet even with the growth and formal business setting, Way continues to use his home office to manage several office buildings he owns in the Los Angeles area.

APPRAISE! APPRAISE!

Craig Harrington runs a large-scale appraisal business from the 1,100-square-foot office in his home outside Minneapolis, an office equipped with 10 telephone lines, two Zenith Z-386 computers with 190MB of storage, a laser printer, and a fax machine.

The advantages of a home office, says Harrington, include "security for equipment, files, clients' records—everything is confidential. We keep a low profile," he continues. "Everything we do is over the phone. Nobody comes here."

Harrington, of Harrington & Harrington, Inc., started in real estate 15 years ago and today not only provides appraisals, but also manages a network of 100 independent appraisers.

Many individual appraisers use software developed by Richard Heyn & Associates of Stevensville, Michigan ([616] 429-0051 or [800] 234-8727). Such software, available for IBM PC compatibles, can speed the appraisal process by at least 25 percent, according to Harrington, and since appraisers are paid \$250 to \$300 for each job, more appraisals translates into more money.

Lenders and government agencies use Harrington to manage large-scale appraisal programs. Rather than hiring and tracking numerous appraisers, clients work through Harrington's network. Harrington commissions independent appraisers, receives their bills, and then makes sure that invoices are paid. He also provides quality control and supervision that otherwise might not be available to lenders without expert employees on staff.

Harrington says a home office lowers operating costs, but "money saved on rent is used for better equipment and more research to produce better appraisals." In addition to money and convenience, Harrington enjoys another advantage: not having to commute in Minnesota's fierce winter storms. ■

SOFTWARE, BOOKS, AND COMPUTER SYSTEMS FOR REAL-ESTATE ENTREPRENEURS

Because real estate is such a large industry, it is not surprising that every aspect of it has been computerized. There are products for brokers and agents, investors and developers, and lenders and lawyers. Some materials are within the public domain and others retail for thousands of dollars. Among the many products available, the ones below are particularly interesting.

A Banker's Secret. Software that computes a full amortization schedule for almost any loan and explains the benefits of prepayment. The exceptional manual helps clarify confusing tasks such as evaluating competing mortgages, refinancing loans, or determining how adjustable rates affect budgets. \$32. 128K IBM PC and compatibles. Good Advice Press, P.O. Box 78, Elizaville, NY 12523; (914) 758-8249.

Mortgage Selector. Financing is a crucial element in virtually all real-estate transactions, and software that allows buyers to analyze costs can pay for itself many times over. *Mortgage Selector* compares fixed-rate and adjustable financing, projects total loan costs before taxes, and even shows loan expenses when corrected for inflation. \$50 to \$100. 384K IBM PC and compatibles. Central Computer Products, 330 Central Avenue, Fillmore, CA 93015; (805) 524-4700.

NewsAd. Dull advertising is a surefire way to limit sales opportunities. To enliven advertising copy, many brokers and agents use the *NewsAd* program. Developed by a team of specialists in advertising, psychology, and real estate, *NewsAd* automatically assembles model ads after the user enters

property data. Users can generate several ads from one set of data. \$199 to \$395. 128K IBM PC and compatibles. Computer Advertising Company, P.O. Box 760, Sandusky, Ohio 44870; (800) 262-2623 or (419) 625-6962.

Gallagher Financial Systems, Inc. If you've ever applied for a loan, you know the process is tedious and involves more paperwork than the federal budget. Gallagher Financial Systems simplifies the process with a portable, point-of-sale system that allows mortgage brokers to take applications by computer and then print out required forms, disclosures, and settlement statements. The information collected on-site can be saved and entered into a central computing system or sent by satellite to appraisers, attorneys, brokers, credit bureaus, and title companies—a process that saves hours of rekeying. Sold as a turnkey system, Gallagher's package, which includes a portable computer, printer, and software is priced from \$7,000 to \$9,000. Gallagher Financial Systems, Inc., Suite 511, 1550 Madruga Avenue, Coral Gables, FL 33146; (800) 648-6677 or (305) 665-5099.

How to Manage Residential Property for Maximum Cash Flow and Resale Value. By investor and home-based entrepreneur John T. Reed, publisher of *Real Estate Investor's Monthly*, this useful book includes general information on property management, as well as specific advice showing how to create your own real-estate reporting system from available spreadsheets. \$22 plus \$3 shipping. John T. Reed, 342 Bryan Drive, Danville, CA 94526; (415) 820-6292.

The Layman's Guide to Presentation Design

Tips on Choosing Charts, Typefaces, Colors, Sizes, and Styles to Create Effective Slides, Overheads, and Handouts

BY ROBIN RASKIN

The best software in the world can't help you create effective visual materials for business presentations if you don't know the basics of good design. In fact, because graphics software provides such a variety of typefaces, fonts, and colors, it's easy to create some awful-looking visuals (see "Presentation-Graphics Software," on page 40).

The design principles discussed here apply to laser-printed handouts, overhead transparencies, and 35mm slides—the three major forms for business presentations.

The purpose of a business graphic is to inform people—not wow them. Keep your graphics simple and consistent. The rules below merely reinforce this simple dictum. Of course, rules are made to be broken, and good designers often break them to achieve marvelous effects; but when you're starting out, it's best to stick to the rules.

Three types of graphics—graphs, icons, and text—are used to represent business information. The three types can be mixed and matched to create different effects or emphasize certain points.

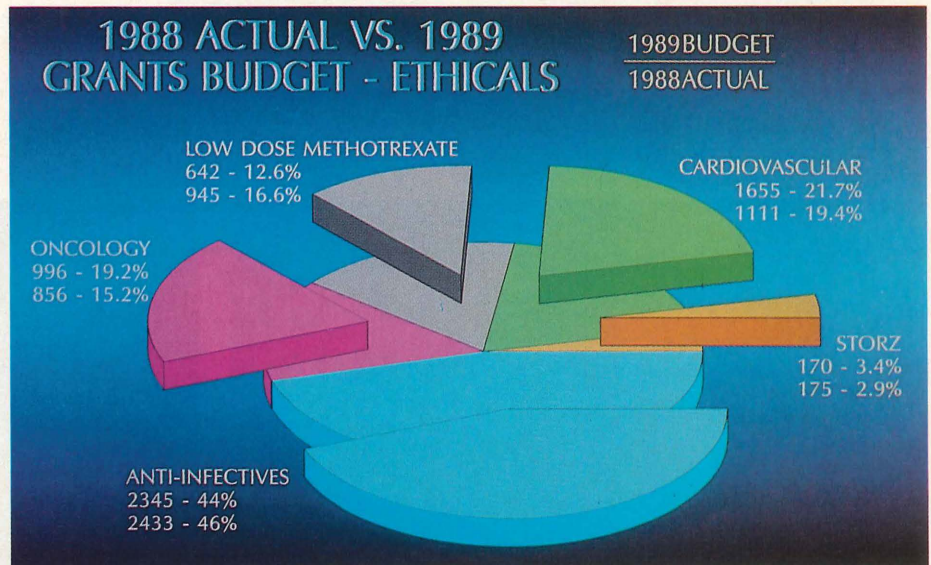
Graphs show numerical data pictorially. The most appropriate graph depends on the type of data you'll be using.

Icons, or symbols, connect an image with your message. An icon might be a bag with dollar signs on it to represent money or a

ROBIN RASKIN wrote "Sell Yourself With a Newsletter," the cover story in HOME-OFFICE COMPUTING's April issue. Consultants on this article were:

JOHN DOSWELL, president of New York-based Doswell Productions, which creates presentation materials that rely on computer animation and special effects.

GLEN A. SCHOFIELD, art director and senior illustrator at Einstein & Sandom Automation Solutions Inc. (EASI) in New York City. EASI creates InterAds—interactive advertisements on disk. Schofield created the computer artwork for the introductions of the IBM PS/2 and Tandy 4000 computers.



Even though the exploded pie chart above is more elaborate than the typical presentation-graphics novice might construct, it demonstrates that several complex details can be shown when you have a well-designed visual.

factory smokestack to depict industry.

Text charts make up more than 80 percent of all business graphics. Brevity and good copy are the keys to these text charts.

A GRAPH FOR ALL REASONS

A good graph is like a good accountant—it takes complex data and churns out simple, understandable results. All presentation software can transform numerical data into a graph. Understand your data and what it means, and you can create a good graph.

Column graphs (many software packages call these vertical bar charts) are used to examine one item that changes over time or to compare an item with others. For example, you'd use a column graph to track a company's auto sales over the last six months.

Bar graphs are similar to column graphs except that the bars run horizontally. You use bar graphs to compare independent data sets that do not change. Which department provides the highest revenues? Which country has the largest army?

Pie charts are probably the most overused type of graph. The slices of the pie represent the parts that make up a whole. Often, there are more visually interesting ways to show the same information. For example, if you wanted to show the various divisions of a manufacturing business, you might create an outline for a large building and use sections of the building to represent parts of the whole. The building is used as a pie, but also acts as a symbol of the business.

Line graphs, which show trends over time, are good for representing large data sets. For example, if you wanted to show the average rainfall in 1988, a line with a point for each week of the year would be quite reasonable. A bar chart with 52 bars would be overwhelming. Line graphs are also used as predictors because there is a pattern to large data sets.

There are more specialized graphs, but the four listed here are the most common. You can mix different types to create more interesting graphics. The most common combination is to superimpose a line graph

over a bar graph. This combo offers a great deal of complex information in a very concise package.

WORD CHARTS

The primary way to communicate information is with text. Text slides or handouts can help organize and target your presentation. Make sure you use text slides as a visual aid and not as lecture notes—standing in front of an audience and merely reading from slides can be rude or boring. As you prepare word charts, keep these points in mind:

- Limit lines to six or seven
- Limit words per line to six
- Mix upper- and lowercase letters
- Color—not type size—draws attention
- Use yellow or orange on dark blue
- Chunks read easier than long lines
- Left-justified text, as shown here

TYPE

Type falls into two major groups: serif and sans serif. Serifs are lines that stem from the upper and lower ends of a letter, giving the typeface a more ornate look. Two typefaces that include serifs are Times Roman (the text you're reading) and Courier.

Sans serif (*without serif*) is a less ornate, squarer type style. Helvetica is the most common sans serif type.

A typeface is a set of characters of the same size, thickness, and basic design. The most common typefaces for business graphics are Times Roman and Helvetica. Some software developers use equivalent typefaces with different names in order to avoid paying license fees. For example, many software packages refer to a Helvetica-like font as Executive or Swiss.

A font is a subset of a typeface. For example 12-point Helvetica Bold or 14-

point Times Roman Italic are fonts.

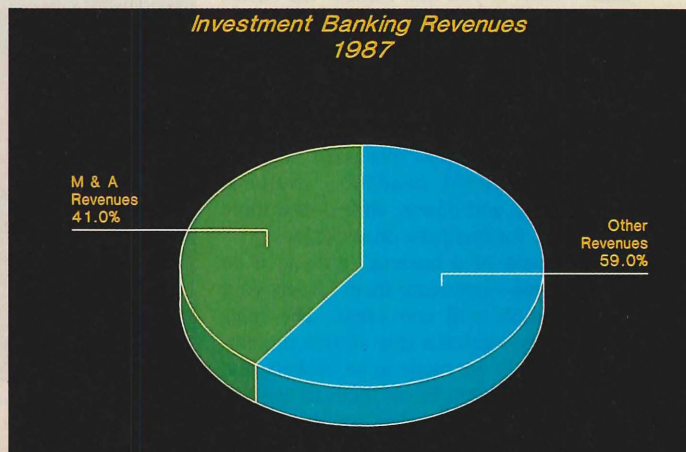
When choosing type, less is best. Stick to the major fonts. Don't use more than two fonts in a single presentation. Italics are good for subtitles, but are not to be used excessively. A good technique is to pick one font for headlines and another for bulleted information. Avoid gaudy, highly designed typefaces, such as Gothic and Old English.

COLOR

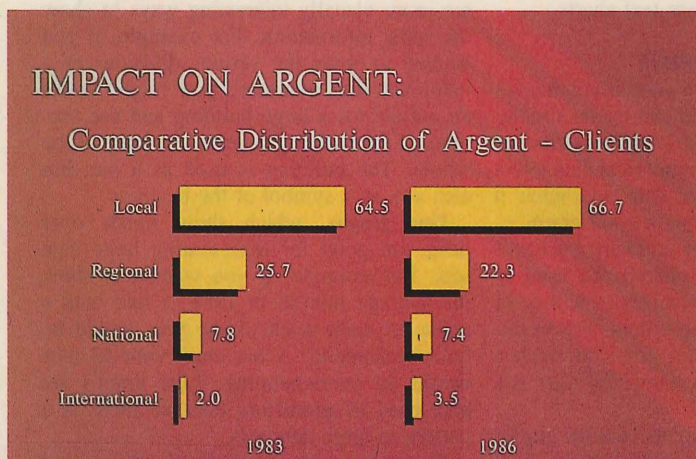
Color can emphasize a point on a graphic. You can change one word in a line from yellow to orange rather than changing the font. Color also provides continuity from one graphic to the next. For instance, if you are comparing export products, a given product category might appear in the same color every time it's mentioned. And color can be used to inspire images or associations, such as green to indicate profits and



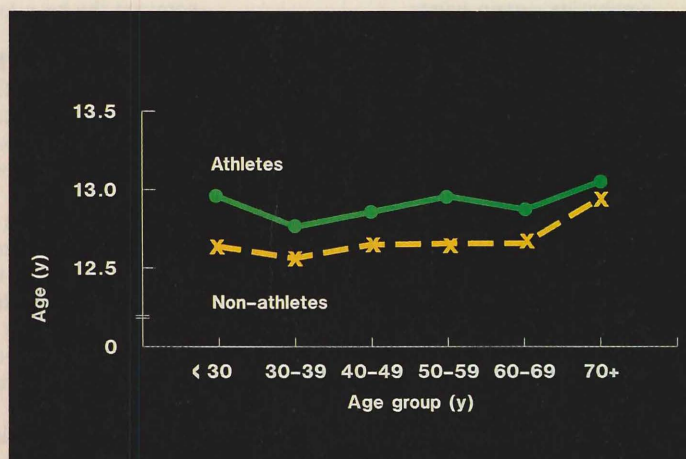
Column graphs (also called vertical bar charts) work well for comparing one item that changes over time, such as the yearly growth in a marketplace indicated above.



A simple pie chart, like the one above, represents the parts that make up the whole. Notice how the pie itself is the most colorful part of this graphic.



Bar graphs are similar to their columnar cousins, except the bars run horizontally. They're a good choice when contrasting, for example, the size of salespeople's territories.



If you need to represent large amounts of data that change over time—for instance, the 1989 weekly sales for a mail-order business—line graphs are your best choice.

VISUALS BY BRILLIANT IMAGE, A PC-BASED PRESENTATION DESIGN FIRM IN NEW YORK.

red to indicate deficits.

Warm colors—yellow, red, and orange—are attention grabbers. You might want to make one slice of a pie chart a bright color and then portray the others with a lighter shade of the same color. This method is generally preferable to coloring each slice with a different color.

On the other hand, if you are planning a presentation to discuss each slice of, say, a company's profits, color-coding each slice is a good technique. Assign three colors to the three slices of a pie chart.

Some colors can vibrate when placed next to each other. A good artist will use vibration as a technique to focus attention, but most novices should steer clear of vibrating color combos such as white on black or cyan on magenta (two typical IBM CGA palette colors). When in doubt, use a safe dark blue background, which contrasts less

with light or bright colors than black backgrounds do. Don't use black on blue—you won't be able to read it.

SIZE

Untrained artists think that making something big is the best way to draw attention to it. However, there are many ways to emphasize an element in your graphic without using large type or images. Color is one method, but you can also use features such as boldfaced text, boxes drawn on-screen, arrows, or drop shadowing to focus attention.

Don't mix too many type sizes. Don't add too many small-print annotations and explanations to your chart. Legends should be easy to read from the back of a large hall.

If you do use big type or images for emphasis, make them lightweight. A good rule of thumb is: The bigger the graphic, the lighter the weight, and vice versa.

PUTTING THE PIECES TOGETHER

Designing a single graphic—whether it's a slide, an overhead, or a handout—is one part of the presentation process. Making graphics work together is another part. Before you begin creating individual graphics, you should design an overall plan. Use these guidelines to develop and execute a complete presentation.

1. Be Consistent. Consistency is the most important attribute of a good presentation. Your viewers should clearly see where you've been and where you're going. If every graphic in your presentation uses different colors, fonts, and graphic techniques, viewers will stray from the message. Don't use more than two or three different layouts.

2. Imitate good advertising layouts. Look at visual media critically. Look to magazines and advertisements for inspiration. Study the graphics in *Time*, *Newsweek*, and *USA Today* for ideas.

3. Don't put too much information on a graphic. There's no hard-and-fast rule about how many graphics to include in a presentation. But remember that the viewer needs to look at new material frequently and is overwhelmed with a graphic that tries to present too much information. More graphics with less information on each is preferable.

4. Create a storyboard. A storyboard is a series of boxes drawn on paper that shows your entire presentation, one graphic at a time. Draw a three-by-four-inch box (that's the proper ratio for a slide) and enter the text idea for that box with a wide marker. This will force you to think visually and help spot problem graphics that contain too much information.

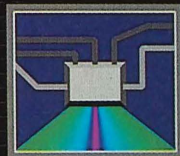
5. Attack your toughest graphic first. Any presentation is bound to have one killer graphic—perhaps it has large data sets or requires long sentences or a long list of bulleted points. Take care of these problem slides first by choosing their colors, fonts, and sizes. Then apply the same parameters to the other graphics in the presentation.

6. Test on a guinea pig. Get a friend or colleague to critique your presentation. Simulate your worst-case presentation conditions (maybe it's the back row of a large room). Is all the text legible? Is the main message understandable? Is too much or too little going on at once? Have you used cryptic jargon or confusing abbreviations? Are your images so complex that they obscure your message?

7. Leave time for corrections. Graphics presentations (especially those with 35mm slides) are subject to minor calamities. The color that looked great on-screen may be too soft when the slide comes back from the service bureau. And elements that looked all right on-screen may be too close or too far apart on the slide. This is typical since what you see is not always what you get when you transfer a screen image to an output device. Also, slides can get ruined—make duplicates. ■

TRAJECTORY SYSTEMS

- On Time
- Within Budget
- On Target



This effective word, or text, chart keeps things simple—few lines, chunks of text, a mix of upper- and lowercase letters, and the clearly readable Times Roman typeface.

THE 1987/88 MARKETPLACE SHORTER COMMERCIALS

Industry Usage

- Industry usage at 30% of all commercial inventory
- Estimated to reach 70% by 1990
- Usage currently at about two thirds of maximum potential
- Greatest usage in Daytime and Primetime
- All networks sell stand-alone :15's
- Networks discontinue Primetime Newsbreaks

Once your presentation-graphics skills grow, you can break some rules and still create persuasive slides, such as the one above that uses long lines and white text.

Presentation-Graphics Software

Combine Words, Numbers, and Pictures in Persuasive, Eye-catching Slides and Printouts

BY ROBIN RASKIN

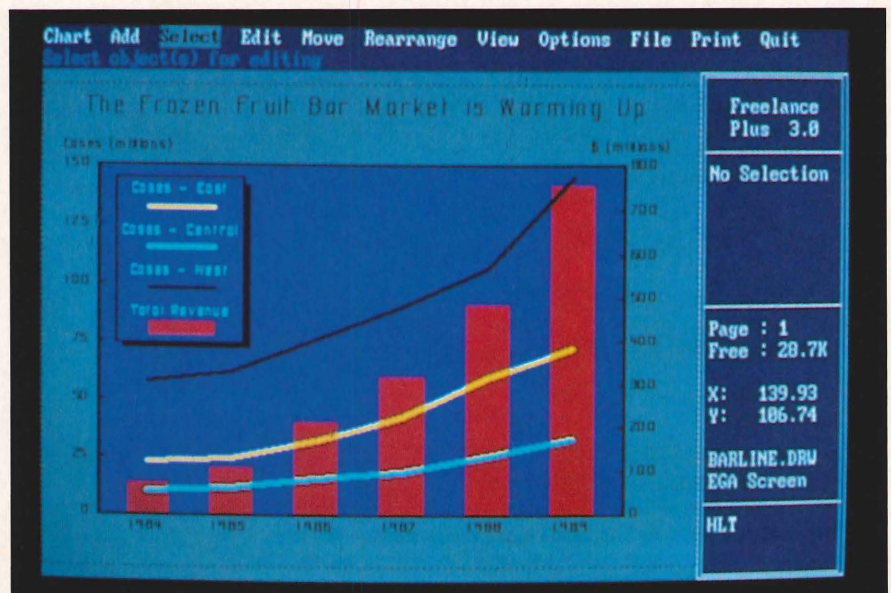
Presentation-graphics software sets out to prove what the old Chinese proverb proclaims: One picture is worth more than 10,000 words.

Presentation-graphics programs create 35mm slides, overhead transparencies, and color, laser, and dot-matrix printouts. The programs, designed to help non-artists prepare eye-grabbing visuals, excel in three areas: text charts, graphs, and drawings and diagrams. (Refer to "The Layman's Guide to Designing Presentations," page 37, for more details on these formats.) Without too much effort, a home-based professional can create the same kind of high-quality documents and slides being created at the country's biggest corporations.

All of the packages reviewed here allow you to input numbers directly, and many of them can import Lotus 1-2-3 or Excel data for graphs and charts. All of the programs include templates for pie, bar, and line charts. Simply input the data, and the program draws the graphic. With more advanced programs, you can then spiff up the chart with legends, titles, and symbols. Most programs offer clip-art libraries of basic symbols, and some also allow you to customize basic symbols or draw your own images.

Though most people want to import numbers created with spreadsheets, some may want to export charts or other graphics to their word processor or desktop-publishing package. If this is your objective, be sure to choose a program that can export to your software.

Because presentations are multimedia events, presentation-graphics software affords a range of output options—overhead transparencies, printer or plotter hard copy, 35mm slides, or 8-by-10 transparencies. In-



Freelance Plus—an Editors' Pick—helps you construct exquisite charts. For example, its screen-preview mode depends on your choice of output device, so you'll get no surprises when you make printouts, 35mm slides, or overhead transparencies.

creasingly, the computer monitor itself is being used as a slide-show device. You choose a sequence of slides (the generic term for a screen image) and set the timing, and the computer runs the slide show. The computer must be connected to a large-screen projection device to be effective in a large room, but your monitor provides a good screen for testing your presentation.

If you don't own a laser printer or a film recorder (a device that connects to the computer and produces slides), you can send your files by disk or modem to a graphics service bureau, such as Autographix or Zenographics, which will send back color printouts, transparencies, or slides. Many presentation programs now offer direct links to graphics service bureaus; if you have a modem, the program dials and sends files.

MAC vs. MS-DOS

Although the MS-DOS world offers more software, more output choices, more diversity in its packages, and a much lower price tag for color equipment, the Macintosh is better for preparing presentations. It is, after all, a graphics-based system.

MS-DOS packages (except Xerox Presents) concentrate on designing individual images, but Mac packages force you to think in terms of a complete presentation. Mac products provide thumbnail sketches to help you sequence your materials. All Mac programs automatically create speaker's notes and audience handouts. And the Mac's built-in cut-and-paste function makes exchanging graphics and text among programs relatively easy.

However, designing color slides on a

ROBIN RASKIN is a freelance writer who specializes in graphics software.

black-and-white Macintosh can be difficult. You must assign colors to shades of gray, and the inability to see the hues on-screen can lead to jarring color combinations in the final product. A color monitor is preferable for both MS-DOS and Macintosh users. An EGA or VGA monitor is recommended for MS-DOS machines. Minimum display requirement for MS-DOS packages is CGA unless otherwise stated. Some programs also support Hercules monochrome graphics.

With either type of system, the faster the computer, the better—redrawing the screen will be slow without a fast microprocessor.

The following reviews highlight the advantages and disadvantages of 11 major MS-DOS and Macintosh presentation-graphics programs.

MS-DOS

Draw Applause, v1.1, \$495; Ashton-Tate Corp.; (213) 329-8000

SYSTEM REQUIREMENTS: 640K IBM PC or PS/2; hard-disk drive; EGA; DOS 2.1 or higher

If you're after special effects, *Draw Applause* is your program. The Distribute function lets you graduate a color from dark to light or blend one color into another. The same function can make text appear to zoom out from the screen or create a pattern of images. Expensive-looking halos and spirals are easy to create. A built-in slide-show function lets you display your graphics on-screen but, surprisingly, provides no special effects (fades, dissolves) between images.

The WordChart window supplies eight templates for text charts, or you can create your own variations. The Chart window creates the basic chart types and offers enhancements such as three-dimensional shading and mixed charts. You can also import and export WK1 and DIF spreadsheet files.

Picture window is the most powerful module. You can add freehand symbols or graphics, draw arcs, rotate text or graphics to any angle, group objects together, and place objects in the foreground or background.

A large clip-art library, a handful of pre-designed backdrops, and some special symbols are available. The caliber of the clip art is a notch above most. Five palettes (one standard and four seasonal) are supplied, and each has 16 colors. You can create and store custom palettes chosen from 64 colors. When using Ashton-Tate Graphics Service to make slides (there's a built-in link), you can access more than 16 million colors by varying hue saturation and intensity.

The package imports and exports files from programs using the CGM graphics format, but doesn't work with PCX or TIFF files—making it a poor choice as a desktop-publishing adjunct. And its three overlap-

ping interfaces can be confusing. But for the presenter with a sense of flair, the program is sure to draw applause.

★ EDITORS' PICK ★

Freelance Plus, v3.0, \$495; Lotus Development Corp.; (617) 577-8500

SYSTEM REQUIREMENTS: 640K IBM PC or PS/2; hard-disk drive

Freelance Plus 3.0, the latest upgrade to Lotus's well-endowed charting and drawing package, is a great all-purpose tool. One particularly useful feature is a screen preview of your image that is dependent on your output device, so you know there'll be no surprises when you print or make a slide.

Freelance offers sophisticated drawing tools, including grids and numerous viewing options. You control fonts, curve-smoothing, and arc-drawing. To make charts, you enter numbers into on-screen forms and make choices about size, placement, and color. The Datalink feature allows you to view 1-2-3 spreadsheets and select ranges for charting without leaving *Freelance*.

The Portfolio module includes a file folder that groups and orders images for printing, previewing, or for the built-in slide show. A utility lets you capture screens from other applications to include in the slide show. In addition, other MS-DOS computer owners can run your *Freelance* slide show without buying the program.

Although many third-party graphics service bureaus support *Freelance*, the program has no dedicated link. Nevertheless, non-artists will find that *Freelance* is a precision tool that produces exquisite charts.

★ EDITORS' PICK ★

Harvard Graphics, v2.12, \$495; Software Publishing Corp.; (415) 962-8910

SYSTEM REQUIREMENTS: 512K IBM PC or PS/2; hard-disk drive or two 3.5-inch drives

Harvard Graphics, the best-selling business-graphics program, offers a wide range of chart types and drawing tools and is relatively easy to use. I tried repeatedly to create bad charts with *Harvard*, but the program wouldn't let me. Everything it produces looks good.

You can import 1-2-3 data and then specify how you want it presented, using axis titles, legends, footnotes, text size, and color. Fill-in-the-blank forms offer enhancement options such as three-dimensional shading, exploded slices, overlapped columns, and more.

Once a chart is created, you can incorporate drawings or clip-art symbols. However, you can't add arcs to the charts, so you're limited to boxy drawings. The program's

large symbol library includes many cartoon-like images you may not want to include in a presentation, but you can create your own symbols. A 77,000-word spelling checker springs to life when you're adding text to charts.

Harvard supports PostScript printers and will automatically dial and send files to Autographix. An electronic slide-show function lets you specify timing and special effects to use between slides. An optional utility allows you to create a slide show that others can view even if they don't own *Harvard*.

Despite its sharp-looking output, *Harvard* is not a perfect program. It offers only six fonts and doesn't allow you to rotate objects. Because the menus are so hierarchical, moving from one procedure to another means backtracking through quite a few screens. Still, *Harvard's* combination of ease of use and power features is a strong one.

Pinstripe Presenter, v1.0, \$200; Spinaker Software; (617) 494-1200

SYSTEM REQUIREMENTS: 512K IBM PC or PS/2; hard-disk drive; mouse strongly recommended

Pinstripe Presenter uses a mixture of icon and text menus. Initially this interface seemed confusing, but after getting used to it, I found it functional. You choose an icon to move you to a work area (Apply Style, Import, Create a File) then use pop-up text-based menus to create your graph. You can use a keyboard, but a mouse is strongly recommended.

You store your creations in folders (up to 32 graphics per folder) and put the folders in a cabinet. Like the mixed interface, this takes getting used to, but I found it useful for keeping a presentation in order.

Twenty templates include both chart layouts and color schemes. For example, you can choose Word Chart Blue, plug your text into the template, and immediately display a well-designed graphic. You can easily change the bar color or text spacing, add a drop shadow, thicken a line, or explode a pie slice.

The drawing module is a gem. You can annotate an existing chart or create a custom design with freehand drawing tools. You can make curves, move and size objects, and rotate and skew them. You can group individual shapes into new symbols and use the built-in clipboard to add them to other designs. A strong clip-art library is included.

Presenter is not good at importing or exporting data. It only imports 1-2-3 data that have been saved as a 1-2-3 graph. And the absence of export facilities makes it a poor choice for desktop publishers.

A built-in link to the MagiCorp service helps transform disk images into 35mm slides. The program supports 15 popular printers and includes an electronic slide-

show function. *Presenter*, though initially confusing, can produce graphics that rival those of more expensive programs.

SlideWrite Plus, v3.0, \$445; Advanced Graphics Software, Inc.; (408) 749-8620

SYSTEM REQUIREMENTS: 512K IBM PC or PS/2; hard-disk drive recommended

SlideWrite Plus is suited for people who want to produce many and varied charts. It has three entry modes: for text charts, graph charts, and freehand drawing. Annotating charts with freehand drawing, however, can be confusing because you don't get a clean screen to create on; you have to draw on top of your chart.

The menus are laid out and labeled well, but remembering and using function keys is awkward compared with an icon-based system. For example, when you want to add a freehand drawing you select F1 to add, F2 to select the shape, F3 to select the line thickness, and so forth.

Charting performance is superb. You enter data into an attractive on-screen worksheet and select a graph type. The options include exploded or 3-D pies, organization and flow charts (in the drawing mode), mixed graph types, and Cartesian graphs. Line charts can have a jagged line or smooth curve. You have considerable control over legends, fonts, and fills, and the clip-art library is particularly strong in the scientific and technical fields. You can add lines, boxes, and curves, which can be rotated and mirrored.

SlideWrite Plus imports Lotus 1-2-3, ASCII, and *Symphony* files and will export to a considerable number of formats, including EPS, CGM, PCX, and TIFF. These export formats make *SlideWrite Plus* a good candidate for use with word processors and desktop-publishing programs.

SlideWrite Plus's limitations are minor. The limited color palette and font selection aren't tailored to producing dazzling charts. And though the program supports several film recorders, it doesn't have a direct link to any graphics service bureau. But for the person who churns out a lot of charts, *SlideWrite Plus* is a good choice.

Xerox Presents, v1.0, \$495; Xerox Corp.; (203) 968-3000

SYSTEM REQUIREMENTS: 640K IBM PC or PS/2 with 80286 or 80386 microprocessor (1MB recommended); mouse; hard-disk drive; *Windows* 2.1 or higher; DOS 3.1 or higher

Xerox Presents does more than just make graphs and charts—it provides tools for organizing a complete presentation. Virtually all Macintosh programs take this approach, but *Xerox Presents* is a lone wolf in the MS-DOS world. This powerful and somewhat complex program—it comes on nine 5.25-inch disks—is geared towards professional

Because presentations are multimedia, the software affords a range of output options.

presenters.

Because *Presents* runs under *Windows*, it uses pull-down and pop-up menus and dialog boxes. Like other *Windows* applications, or any graphically-based MS-DOS program, *Presents* redraws screens very slowly.

Rather than designing a single image at a time, you work with a series of frames, which comprise one presentation. Once you design frames, you can view a screenful of thumbnail sketches and use the mouse to sequence the presentation. You can print images in miniature, add comments, and use them as speaker's notes.

About 200 style sheets provide layout, font, color, and size templates—you merely plug in graphics and text. The style sheets are tailored specifically for slides, overheads, printouts, and the built-in electronic screen show. You can use the mouse to select 256 colors from a total of 16 million (you need a VGA monitor to see all 256 colors). *Presents* includes a reasonable assortment of drawing and chart- and table-making tools, although none of these modules is especially powerful.

Because it can import *Windows* Metafile, *Windows Paint*, *Freelance*, EPS, CGM, and TIFF files, *Presents* is a good tool for organizing presentations created with other graphics software. The program supports PostScript printers and digital typesetters (it uses Bitstream fonts, which means you see on-screen what you will see on paper) and lets you send files by modem or disk to Autographix for slidemaking.

Presents won't make your graphics look better, but will organize your presentations very well. Unfortunately, the program is clunky to operate.

MACINTOSH

Cricket Presents, v2.0, \$495; Cricket Software; (215) 889-1950

SYSTEM REQUIREMENTS: 1MB Macintosh (2MB recommended); hard-disk drive; System 6.0 or higher

Cricket's three-pronged approach to business graphics—*Cricket Draw*, *Cricket Graph*, and *Cricket Presents*—has been so successful that Xerox Corporation is publishing an MS-DOS version of the software

trio. (See review of Xerox Presents.)

Cricket Presents stores individual images as part of one presentation and also provides tools for creating basic graphics. These include graphics primitives to create diagrams, fonts and text-editing tools for word charts, a data-chart module, and a table-making module. None of these modules are powerhouses. For example, the drawing features are better for adding lines, boxes, arrows, and shapes than for creating complex line art. Templates are included for backgrounds, borders, and layouts.

With a good *HyperCard*-based tutorial, *Presents* is an easy program to learn. It produces speaker's notes and audience handouts. Its slide-show function can sequence images, specify their on-screen duration, and add transitional effects such as fades and wipes. And *Presents* has a dedicated link to Autographix for 35mm slides, transparencies, and laser printouts.

Presents includes a spelling checker and thesaurus but relies on a third-party outline program, *Acta*, which comes with the package. This setup is adequate, but not as tightly integrated as *Persuasion*, where the outliner is the heart of the program. The Auto *Presents* feature takes an outline and pours the text into word charts. *Cricket Presents* is more a presentation engine than a creative tool but nonetheless a solid all-around performer.

More II v2.0, \$395; Symantec Corp.; (408) 253-9600

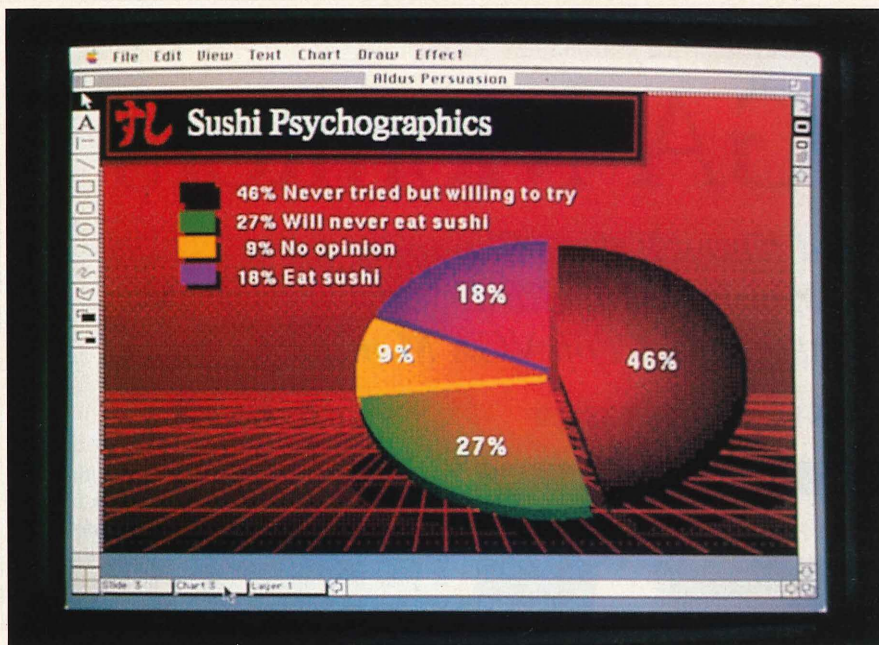
SYSTEM REQUIREMENTS: 1MB Macintosh; hard-disk drive; System 4.1 or higher

Complete presentations are usually the result of a three-step process: jotting down thoughts, organizing them into meaningful information, and only then making slides, printouts, or overheads. *More II*, which integrates a full-featured outliner into its presentation-graphics capability, is perfectly designed for this process.

For example, you change an outline into a text chart with bullets just by clicking on an icon. A helpful set of drawing tools lets you enhance any chart with boxes, lines, and drop shadows. Other tools make it easy to use the same basic design on several slides. And, in typical Macintosh fashion, importing graphics is a cinch. *More II* supports several graphic formats, including *MacPaint*, PICT and PICT2, and EPSF (encapsulated PostScript) files.

When the time comes to make your presentation, you can set up an on-screen slide show, using special effects to move from screen to screen. To get 35mm slides, overhead transparencies, color photographs, or color laser printouts, you can send your *More II* files to the MagiCorp slide service via mail or modem.

If organizing ideas is as much a part of your work as creating presentations, you'll find a strong ally in *More II*.



The backbone of Persuasion, our Editors' Pick for the Mac, is a powerful text outliner that forces you to organize a presentation's content first and focus on its visual elements later. The 34 included templates alleviate worries about design.

★ EDITORS' PICK ★

Persuasion, v1.0, \$495; Aldus Corp.; (206) 622-5500

SYSTEM REQUIREMENTS: 1MB Macintosh; hard-disk drive; System 4.2 or higher

Persuasion is by far the largest Mac program reviewed here (it takes up six double-sided disks and 4.5MB on a hard-disk drive), and it offers the most tools. *Persuasion*'s backbone is a powerful text outliner. The object is to organize your points using structured text and worry about the visual elements of the presentation later. The outliner includes the headings and levels, which can be collapsed and expanded, as in a typical outliner. I find that this approach produces coherent results since you're forced to worry about content first.

With 18 black-and-white templates, six color templates, and 10 chart templates included, you don't have to worry much about design. Each of these templates contains six master-slide designs (for example, a title or text slide) for a given presentation. These templates are remarkably refined, and the documentation provides excellent guidelines for choosing the correct ones. A clock icon indicates which templates are quickest to work with.

The drawing tools include rotations, arcs, and graduated object fills. Another special function allows you to layer objects on top of one another on-screen. You can combine this feature with the electronic slide show to produce an animated effect. An additional menu bar along the bottom of the screen contains menus that let you move around quickly among the slides, making it very easy to apply styles.

Persuasion can accept ASCII text (only into the outline); data from spreadsheets, *Acta*, and *More*; and graphics from EPS, PICT, and PICT2 formats. It doesn't provide a dedicated graphics-bureau link, but it supports a variety of film recorders. For people used to working with electronic outliners or paper-and-pencil outlines, or for people more comfortable with text than graphics, *Persuasion* will help produce a coherent, good-looking presentation.

PowerPoint, v2.01, \$395; Microsoft Corp.; (206) 882-8080

SYSTEM REQUIREMENTS: 1MB Macintosh; two 800K disk drives or a hard-disk drive; System 4.1 or higher

PowerPoint simultaneously creates slides, note pages, and audience handouts. The Notes function provides a mini image of your slide on a printed page with room for speaker's notes. Handouts combines two, three, or six miniature images. All of these parts can be saved as a single presentation. A handsome tutorial quickly familiarizes you with the program's functions.

You can design a master slide to establish the format for every slide in the presentation. Templates are provided for those who prefer to pick a ready-made design.

PowerPoint has some drawing tools, but they're best for adding simple design elements such as boxes, borders, and lines. In most cases it makes sense to use pictures created in other applications. *PowerPoint* can accept *MacPaint*, PICT, PICT2, or EPSF files.

The program includes a word processor (with spelling checker, search and replace, and bullets) and a labeling tool. Unfortunately,

no charting capabilities are provided, so those who want to use data charts will have to rely on outside applications.

PowerPoint can lay out a presentation in miniature and refine the sequence or call up a single slide for editing so it fits into the presentation better. Slides from an existing presentation can be called up and copied into a new one. And you can change a color in many different slides in one operation. *PowerPoint* even generates sheets of empty storyboard boxes to help you design with paper and pencil.

A link (via modem or disk) to Genigraphics lets you order 35mm slides and transparencies. Given the absence of chart-making and drawing tools and the presence of a word processor, *PowerPoint* is clearly best for presenting textual material or for organizing a variety of charts and pictures imported from other programs.

StandOut! (formerly *ReadySetShow*), v1.0, \$295; Letraset USA; (201) 845-6100

SYSTEM REQUIREMENTS: 1MB Macintosh; two 800K disk drives or hard-disk drive

StandOut! combines word processing, charting, and freehand drawing to create slides, notes, and handouts. Its charting tools are not found in comparably priced Mac packages. A tutorial walks you through a sample presentation.

Both the charting and text components provide customization and special effects such as drop shadows, clustered bars, exploded pie slices, bullets, and more. You can block out areas for text, charts, or pictures, and then enter information, making page layout a snap. The slide sorter displays thumbnail sketches for easy sequencing. *StandOut!* offers full-color support for background and object fills.

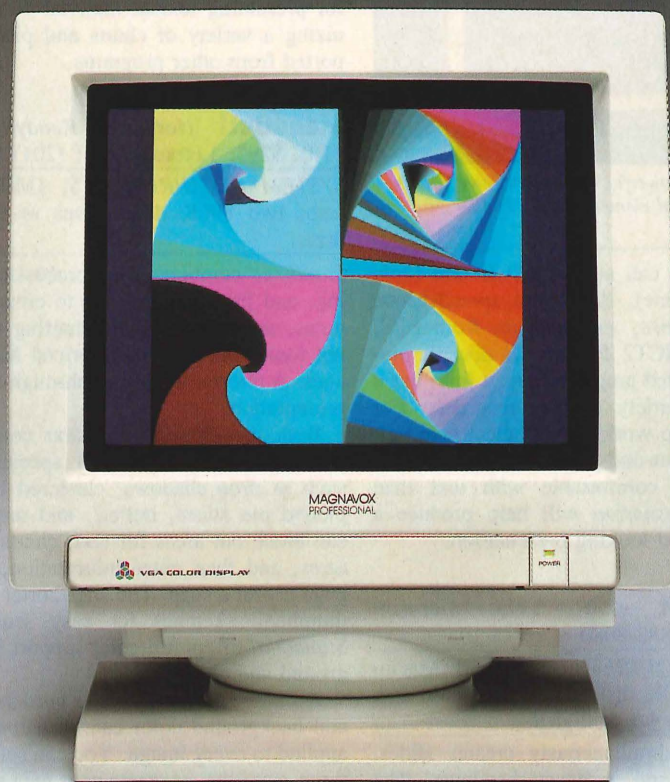
A master slide indicating borders, logos, and background color can be automatically applied to every image. You can select from those provided, or create your own and store the layout, color, and special effects in a library for use in other presentations. Templates include formats for black-and-white slides, overheads, and color slides. However, there is no description—printed or on-screen—of the templates, which makes selecting one a nuisance.

StandOut! has no dedicated slide service but supports several popular film recorders used by graphics service bureaus. (An upcoming version will include a link to the MagiCorp graphics service.) *StandOut!* imports a wide range of files, including TIFF, RIFF, EPSF, *MacPaint*, PICT, and PICT2. Output includes slides, overheads, and hard-copy. The built-in slide show lets you specify duration intervals and use transitional effects between images. But, all in all, working with *StandOut!* is unpleasant, primarily because the documentation is so unclear and unhelpful. ■

Vivid VGA Monitors

*What You Should Know Before Shopping for a
VGA Monitor and Card.
Plus: A Comparison of 23 Top VGA Monitors.*

BY HENRY F. BEECHHOLD



Bright text and crisp graphic images win the Magnavox 9CM082 four stars.

It's easy to understand why many newlyweds buy pricey three- or four-bedroom homes. They're preparing for their future needs and are willing to pay for more than they need now, rather than have to move to a larger home in a few years.

There are other reasons, of course. Many couples need the space for children from a previous marriage, for home offices, or for guest rooms. And others would rather spend more money for a castle that they love than settle for something less than perfect.

Why discuss real estate in a buyer's guide to VGA monitors? Because the people who buy VGA monitors and display cards (the

latest video standard) are like the newlyweds who buy big homes. Some are planning for the future, some truly need them, and some don't want to feel deprived.

Susan Lavery, president of Med-Pro Transcribers of Long Beach, New York, is one of many who moved to VGA technology out of desire, not necessity. Since starting her business, she has upgraded from monochrome to CGA, and then to VGA. Images on a screen, whether text or graphics, are sharper on a VGA than on a CGA or an EGA monitor. "I want color, and I want the best I can get my hands on," Lavery says. "VGA is to CGA what an electronic typewriter is to a manual typewriter," she adds.

Others need VGA. If you do (or plan to do) extensive desktop publishing, computer-

aided design, slide-show presentations, or other work requiring color and high-resolution graphics—perhaps in the *Windows* or *Gem* environment—then upgrading to VGA is your best option. (Many new computer systems already have VGA built in.) And to wring out all of the visual capabilities of recent painting, drawing, and other graphics-intensive applications, you'll want to go with VGA.

The trend in software support also favors VGA. Most major software packages, such as Ashton-Tate's *Draw Applause*, Xerox Ventura Publisher, and Microsoft *Windows/286*, support VGA, while others, such as Spinnaker's *Splash!*, require VGA.

Cost, of course, may be a constraint. If so, EGA might make good sense in light of the rapidly falling prices of EGA equipment. However, keep in mind that while a high-end EGA card and monitor can match VGA's resolution (640 by 480), the combination will cost more than VGA. Also, very few software packages support this high-end EGA mode.

So you're convinced that you want VGA. Now what? Even if you don't know a bandwidth from a Band-Aid, or what Hercules has to do with monitors, you can still choose the appropriate monitor. After all, how many people really understand photo technology before they buy a 35mm camera?

However, there are some essentials about VGA monitors and display cards that you should know before you hand over your credit card. Armed with these truths, as well as the following "Terms to Know" and the "Side-by-Side Comparison of 23 Top-Selling VGA Monitors," you should be prepared to conquer the numbers and acronyms that have taken over the world of monitors.

1. There is more than one type of VGA monitor. VGA monitors can be broken down into two main groups: fixed frequency (supports resolutions up to 640 by 480 pixels) and variable frequency (can accept any graphics card and support up to 1,024 by 768 pixels). And within these two groups are monochrome VGA monitors and color VGA monitors. There are also Super VGA moni-

HENRY F. BEECHHOLD, a contributing editor, frequently reviews hardware for HOME-OFFICE COMPUTING



The Amdek 735 produces sharp text and colorful graphics.

tors (capable of handling resolutions up to 800 by 600 pixels), which fall under the variable-frequency category.

2. The smaller the monitor's dot pitch, the sharper the image that appears on the screen. Dot pitch refers to the distance between the dots (also called pixels) on a color monitor. (This measure is not relevant on a monochrome monitor.) All else being equal, the lower the dot-pitch value, the closer the dots are to one another and the sharper the image. Most VGA monitors offer a dot pitch of 0.31 mm; a few offer 0.28 mm or less. Usually, the smaller the dot pitch, the more expensive the monitor. Look for a monitor with a dot pitch of 0.31 mm or smaller.

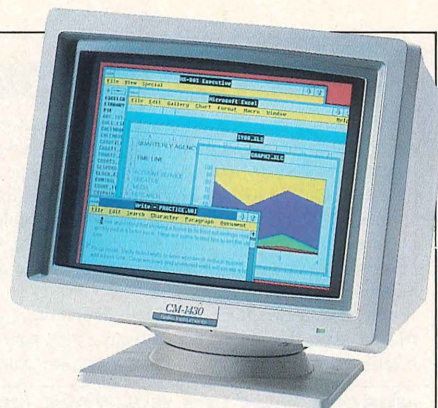
3. Advertised screen sizes refer to the expanse of glass, not to the actual picture. A 14-inch-diagonal monitor typically displays an image measuring 13 inches diagonally, which usually breaks down into a 10.5-inch-by-8-inch rectangle (depending on the manufacturer). Generally, look for a monitor with a 13-inch or larger viewing area. The size of the viewing area is listed in the accompanying chart.

4. The flatter the screen, the less distorted the image. Some VGA monitors use a "traditional" curved display tube. Tube curvature not only distorts an image (most noticeable in graphic art and design work) but reflects light from other light sources. A number of companies advertise flat screens, but many of them are merely less curved than older models. Most of the monitors mentioned in the chart have an almost flat screen. However, Zenith's Flat Tension Mask design (used in its ZCM-1490 fixed-frequency monitor) is *truly* flat, and well worth a look. One last screen consideration is the tube's finish—polished or matte. A polished tube is more reflective, but images appear slightly sharper than on a matte tube.

5. Color perception is highly subjective. Although most people would agree on broad distinctions like bright, washed out, clear, and muddy, their perceptions of a crystal-clear display will all differ. Be wary of advertising reproductions of monitor screens—you cannot rely on them for a true representation of actual screen images.

6. Consider monochrome VGA if you don't need color. If most of the computer work you do is desktop publishing, and you're trying to stay within a budget, look into a monochrome VGA monitor—it's about one-third the cost of a color VGA monitor. The on-screen pages closely resemble the printed pages, and the graphics are displayed in an impressive array of gray shades (the monochrome equivalent of the color spectrum) instead of in color.

7. Variable-frequency monitors are your best bet—if you're willing to spend the money. All current-generation variable-frequency monitors (like the NEC MultiSync 3D) are capable of handling resolutions of 800 by 600 pixels (a new standard called Super VGA), and some go beyond this to support a whopping 1,024 by 768 pixels. In order for these monitors to display 800 by 600 pixels, they need a VGA card that can support this resolution. Variable-frequency monitors cost from \$300 to \$600 more than fixed-frequency monitors, but they can automatically adjust to any of the current video modes (CGA, EGA, or VGA, for example), monochrome and color, and with the help of a special cable (or adapter), most can also be



Images are crisp and clear on the Seiko CM-1430.

used with the Macintosh II computers.

8. Some VGA monitors cannot be used with CGA or EGA cards. VGA monitors use a 15-pin connector for analog input; CGA and EGA monitors use a 9-pin connector for digital input. The advantage of analog input over digital input is that it can display more colors on-screen. Most variable-frequency VGA monitors come with an adapter that allows you to use them with a CGA or EGA card. You might find this a plus if you're

TERMS TO KNOW

Color Graphics Adapter (CGA): An aging graphics standard introduced in 1981. Displays a maximum of four colors simultaneously at a resolution of 320 by 200.

Dot pitch: The distance between any two horizontally adjacent dots (pixels) on your monitor screen. The smaller the number (measured in millimeters), the sharper the screen image.

Enhanced Graphics Adapter (EGA): Introduced in 1984, this was a big jump in graphics standards, offering a resolution of 640 by 350 in 16 colors (from a palette of 64 colors).

Enhanced EGA (eEGA): Inspired by EGA, it offers a higher resolution: 640 by 480 in 16 colors (from a palette of 64 colors).

Fixed-frequency VGA monitors: Monitors that support resolutions up to 640 by 480 pixels but display many more colors than eEGA.

Flat tension mask technology: A new monitor technology; used in Zenith's ZCM-1490 monitor. Offers a dot pitch of 0.28 mm on a *truly* flat, no-glare screen.

Hercules Graphics Card (HGC): Introduced in 1982, this became the standard for monochrome graphics. It offers a crisper graphics resolution (720 by 348) than CGA does—but no color.

Monochrome Display Adapter (MDA): The first display card created for the IBM PC, it offers text but no graphics.

Multi Color Graphics Adapter (MCGA): Built into the IBM PS/2 Models 25 and 30, it offers all the features of MDA and CGA but lacks some of the modes supported by EGA and VGA.

Palette: The total number of colors that your display card, combined with a monitor, is capable of displaying. A Video Seven FastWrite VGA card, for instance, has a palette of 262,144 colors but can display a maximum of 256 colors at one time.

Pixels: The dots that make up all text and graphics appearing on a monitor's screen.

Resolution: The number of dots, horizontally and vertically, that a monitor can display. For example, a resolution of 800 by 600 means that 800 pixels fit horizontally and 600 pixels fit vertically on-screen at one time. The higher the resolution, the clearer the image.

Super VGA: Inspired by VGA, it is the Video Electronics Standards Association's (VESA) new graphics standard. Offers resolutions of 800 by 600 in 16 colors.

Super VGA monitors: Monitors that support resolutions up to 800 by 600 pixels.

Variable-frequency (or multiscan) VGA monitors: Monitors that you can use with various types of graphics cards (for example, CGA, EGA, VGA). Most are capable of handling resolutions up to 1,024 by 768.

Video Graphics Array (VGA): This new graphics standard was introduced in 1987. Offers a resolution of 640 by 480 in 16 colors or 256 colors at a resolution of 320 by 200 (from a palette of more than 262,000 colors).

A SIDE-BY-SIDE COMPARISON OF 23 TOP-SELLING VGA MONITORS

The following chart covers the entire VGA monitor spectrum and includes major monitor manufacturers and their best-sellers.

Monitors are IBM compatible and all, except the NEC MultiSync 2A and the Seiko CM-1430, are Macintosh II compatible. The dot pitch of monochrome VGA monitors is shown as not applicable (N/A) because dot pitch is not a relevant measure of sharpness on these monitors. Some computers come with VGA or MCGA built in; therefore a separate video card is not required for these systems.

Our technical editors set up all 23 monitors in HOME-OFFICE COMPUTING's testing lab and evaluated them on the bases of overall display quality, brightness and clarity of text and graphics, color separation within graphic

images, location and ease of adjustment of fine-tuning controls (for example, contrast), and overall size and design.

The technical editors used the following hardware to test and evaluate the monitors: a Dell System 210, a Headland Technology Video Seven V-RAM VGA card (with 512K of memory), and a Network Technologies VOPEX-8V video port expander, which controls up to eight monitors at the same time (allowing a side-by-side comparison of the monitors). The software used to evaluate the monitors' performance was Lotus 1-2-3, Microsoft Windows/286, ZSoft's PC Paintbrush Plus, and XyQuest's XyWrite III Plus.

○ Poor; ★ Average; ★★ Good; ★★★ Very Good; ★★★★★ Excellent.

MONOCHROME VGA MONITORS (FIXED-FREQUENCY)

Company/Model/Phone	Suggested Retail Price	Rating	Viewable Screen Size (diagonal, in inches)	Dot Pitch (mm)	Video Cards Supported	Warranty: Tube/Parts/Labor (months)	Comments
Amdek 432 (800) 722-6335	\$245	★★	13	N/A	VGA, MCGA	12/12/12	Contrast and brightness controls are average; no vertical or horizontal adjustments; small unit; short cords. Text and graphics are dull in comparison to other monochrome VGA monitors.
GoldStar 1220W (408) 737-8575	\$199	★★	11.5	N/A	VGA, MCGA	36/12/12	Screen is too small and curved in comparison to other monochrome VGA monitors; good contrast and brightness controls (located on front); no vertical or horizontal adjustments. Text and graphics are clear.
Magnavox 7BM749 (615) 521-4313	\$249	★★★	12.5	N/A	VGA, MCGA	24/24/24	Nice flat screen; easily accessible brightness and contrast controls (located on front). Text is not as sharp as on Relisys RM9503, but graphics are sharp and clear.
Relisys RM9503 (408) 945-9000	\$245	★★★★	12	N/A	VGA, MCGA	24/24/15	Relatively flat screen; brightness and contrast controls are easily accessible on front; only monitor in this class with vertical and horizontal hold. Text is sharp and crisp; excellent graphics.

COLOR VGA MONITORS (FIXED-FREQUENCY)

Amdek 732 (800) 722-6335	\$625	★★	11.5	0.28	VGA, MCGA	12/12/12	Very small screen. Average text and graphics.
AST VGA Monitor (714) 863-1333	\$695	★★★	13	0.31	VGA, MCGA	12/12/12	Clear text and bright graphics.
Compaq Video Graphics Color Monitor (713) 370-0412	\$699	★★★	13	0.28	VGA, MCGA	12/12/12	Brightness and contrast are easily accessible on front; excellent adjustment of controls. Sharp text and vivid graphics; screen background has a light-blue tint.
GoldStar 1430 VGA (408) 737-8575	\$659	★★★	13	0.31	VGA, MCGA	36/12/12	Brightness and contrast controls are reachable on right side; excellent adjustment of controls. Text is average in comparison to the other VGA color monitors; graphics are sharp.
IBM PS/2 Color Display 8513 (800) 426-2468	\$750	★★★	11.5	0.28	VGA, MCGA	12/12/12	Contrast and brightness controls are situated on left side; very small screen. Blurry text—not as crisp as other VGA color monitors; graphics are sharp and clear.
Magnavox 9CM082 (615) 521-4313	\$649	★★★★	13	0.31	VGA, MCGA	24/24/24	Brightness, contrast, horizontal, and vertical adjustments are easily accessible on front. Text looks bright and white on a solid black background. Vivid colors and sharp, clear images.
PGS PSC-28 (404) 664-1010	\$695	★★★	11.5	0.28	VGA, MCGA	12/12/12	Brightness and contrast controls are situated on left side; switch for changing text color is included. Sharp text and bright graphics. Very small screen.
Relisys RE9513 (408) 945-9000	\$645	★★	13	0.31	VGA, MCGA	24/24/15	Easily accessible brightness and contrast controls (on front); excellent adjustment of controls. Text and graphics not as sharp and bright as on other color VGA monitors.
Zenith 1390 (312) 745-2400	\$699	★★	13	0.31	VGA, MCGA	12/12/12	Average text and graphics. Tilt/swivel stand is optional (\$30).
Zenith 1490 (312) 745-2400	\$999	★★★★	13	0.28	VGA, MCGA	12/12/12	Even two years after its introduction (and despite its price), this is still the best VGA color monitor on the market; few monitors come close. Excellent brightness and contrast adjustment; controls conveniently located on top. Has a truly flat screen.

COLOR SUPER VGA MONITORS (VARIABLE-FREQUENCY)

Company/Model/Phone	Suggested Retail Price	Rating	Viewable Screen Size (diagonal, in inches)	Dot Pitch (mm)	Video Cards Supported	Warranty: Tube/Parts/Labor (months)	Comments
Amdek 735 (800) 722-6335	\$745	★★★★	13	0.31	Super VGA, VGA, MCGA, EGA, CGA, HGC, MDA	12/12/12	Brightness and contrast controls are easily accessible on front. Text is sharp and clear; graphics are sharp with bright, vivid colors.
Mitsubishi Diamond Scan 14 (213) 515-3993	\$889	★★★	13	0.31	Super VGA, VGA, MCGA, EGA, CGA, HGC, MDA	12/12/12	Not enough movement (for adjustment) of brightness and contrast controls (located on front). Text looks light-blue on a dark-blue background; graphics are clear and colorful.
NEC MultiSync 2A (312) 860-0335	\$799	★★★	13	0.31	Super VGA, VGA, MCGA	24/24/12	Brightness and contrast controls are easily accessible on front. Text is dull and thin, but colors in graphic images are bright.
Panasonic PanaSync C1391 (201) 348-7000	\$899	★★★	13	0.31	Super VGA, VGA, MCGA, EGA, CGA, HGC, MDA	12/12/12	Adequate contrast, brightness, horizontal, and vertical controls, but knobs (located on front) are too small. Text and graphics are good.
Relisys RE5155 (408) 945-9000	\$795	★★★	13	0.31	Super VGA, VGA, MCGA, EGA, CGA, HGC, MDA	24/24/15	DIP switches on back for monochrome/color adjustment. Text is sharper than on other monitors in this class; colors are bright and images are sharp.

HIGH-RESOLUTION MONOCHROME VGA MONITOR (VARIABLE-FREQUENCY)

PGS Max-15 (404) 664-1010	\$389	★★★★	13	N/A	IBM 8514/A, Super VGA, VGA, MCGA, EGA, CGA, HGC, MDA	12/12/12	Vertical and horizontal controls in the back; good fine-tuning ability. Text is white and bright; clear and crisp graphics.
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HIGH-RESOLUTION COLOR VGA MONITORS (VARIABLE-FREQUENCY)

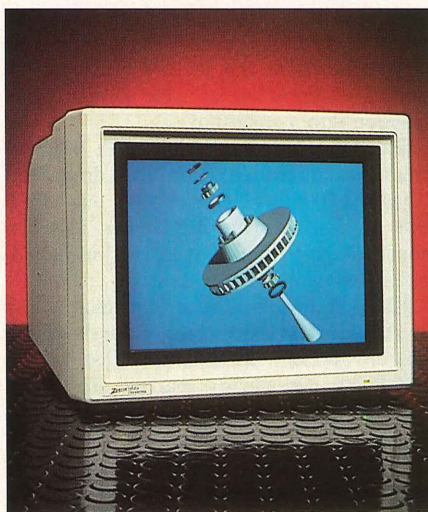
NEC MultiSync 3D (312) 860-0335	\$1,049	★★★	12.5	0.28	IBM 8514/A, Super VGA, VGA, MCGA, EGA, CGA, HGC, MDA	24/24/12	Excellent adjustment; the brightness, contrast, vertical, and horizontal controls are all located on the front. The text is sharp, and graphics are clear and crisp with vivid colors.
PGS Ultra 16 (404) 664-1010	\$1,375	★★★	14.5	0.31	IBM 8514/A, Super VGA, VGA, MCGA, EGA, CGA, HGC, MDA	12/12/12	Brightness and contrast are located on the front and all other fine-adjustments are inconveniently located in the back. Large screen size is the reason for its higher cost. Text is sharp, and graphics are clear and crisp.
Seiko CM-1430 (408) 922-5900	\$995	★★★★	13	0.26	IBM 8514/A, Super VGA, VGA, MCGA, EGA, CGA, HGC, MDA	12/12/12	The only control (brightness) is located on the front. Colors are bright, and images are crisp and clear; text is the sharpest of all monitors reviewed.

The above "high-resolution" monitors differ from Super VGA monitors in that they also support the IBM 8514/A standard, including 1,024 by 768 resolution.

upgrading piecemeal or need to use the monitor on two different computers, one of which lacks a VGA card. Variable-frequency monitors let you utilize any current graphics mode.

9. VGA cards aren't all the same. A VGA card will add \$400 to \$600 to the cost of an upgrade from an EGA to a VGA system. If you have an 80286 or 80386 computer, a 16-bit VGA card, like AST Research's AST-VGA Plus (\$599) or Video Seven's FastWrite VGA (\$599), will take full advantage of the computer's 16-bit connector (which means accelerated screen activity—such as scrolling and rewriting); but it will cost more than an 8-bit card, such as Quadram's QuadVGA (\$395) or STB Systems's VGA Extra/EM (\$399). (For reviews of six popular VGA cards, see the "Miniguide to VGA Cards" in the February 1989 issue, page 64.)

10. You can buy a VGA monitor and card package for less than \$500. You can cut down the price of a VGA system to about \$450 by purchasing a less elaborate video card and a monochrome VGA monitor. If necessary, you can add a fixed- or variable-



The impressive Zenith 1490 has a truly flat screen.

frequency color VGA monitor later. At the other end of the scale, a top-of-the-line video card and a variable-frequency or flat-

tension color monitor will cost you more than \$1,000. (These are average figures based on actual store prices, not suggested retail prices.)

11. Ultimately, only you can figure out which VGA monitor is best for your needs. While the decision to move to VGA requires a careful weighing of costs against present and anticipated needs, it's most important to choose a VGA monitor you'll feel comfortable looking at for hours at a time. Other considerations are image size, clarity, brightness, and color quality. Ideally, you should spend at least a few minutes using each monitor you're looking at before buying.

12. Beware of changing standards. Standards in the computer industry change rapidly, and higher monitor resolutions seem to be a trend. Before long, VGA may be at the low end of high-resolution monitors. Should you wait for better, less costly products? This vexing question haunts every field of rapidly changing technology. There always seems to be something better looming on the horizon, but you can't wait forever for the "best" technology to come along. ■

Two New Macs

*The Macintosh SE/30 and IIfx Stack Up Well
Against '386 MS-DOS Machines*

BY DAVID HALLERMAN AND STEVEN C.M. CHEN

With two attractive new computers, Apple has turned up the heat on the MS-DOS world. The Macintosh's graphic mouse-based operating system has been sped up with a faster microprocessor and math coprocessor. And several new high-resolution monitors, in a variety of shapes and sizes, take advantage of the Mac's ability to easily display and manipulate graphics.

The Macintosh SE/30 and IIfx are expensive compared with MS-DOS XT and AT computers; but they should be compared with MS-DOS computers based on the Intel 80386 chip and running *Windows/386* or *Operating System/2* with *Presentation Manager*. Both are graphic mouse-based operating systems. (See price and feature comparisons in the "Macintosh SE/30 and IIfx vs. MS-DOS 386 Computers" chart. For a more subjective look at the differences between Macintosh and MS-DOS computers, read "An MS-DOS User Eyes the Mac," this month's *Workstyles* column.)

The Macintosh SE/30 and Macintosh IIfx are the first of several new Macintosh computers Apple will introduce this year. A portable Mac is rumored to be coming, as is a "low-cost" Mac, but Apple has not confirmed either. The SE/30, with a built-in black-and-white monitor and one slot, joins Mac Plus and SE in Apple's compact line. The IIfx, with three expansion slots and a choice of monitors, joins Apple's modular line, which also includes the Mac II and IIfx.

All Macs come with several useful utilities. *Apple File Exchange* transfers data to and from MS-DOS and Apple II ProDOS disks. *Map* offers a world map with time zones, latitudes, and longitudes for quick reference within nearly any program. *Close-View* magnifies the screen's image to help those with poor vision. *MacroMaker* makes it easy to automate a series of keyboard commands, mouse movements, and menu choices. And *HyperCard* allows users to

construct their own point-and-click programs or run the multitude of *HyperCard* stacks now available.

One key difference between Macintosh and MS-DOS computers is the way they handle memory. All Macs can store many desk accessories (at least 15 and sometimes

more), which can be called up at any time from within any program. Until they are called into action, the desk accessories take up no memory. Second, all of the memory in a Macintosh is available to the user; with MS-DOS, only 640K can be used without somehow tricking the system.

MACINTOSH SE/30

It's Fast, and Its Disk Drive Reads MS-DOS and Apple II Data

RATING: ★ ★ ★

In only five years, the basic Macintosh silhouette—the 9-inch screen tilted up like a face, the disk-drive slot shaped like a mouth—has become a cultural icon. But, while the exterior hasn't changed much, the insides have been supercharged.

The SE/30's 68030 microprocessor and ROM chips are identical to those in the Macintosh IIfx—Apple's top of the line. The SE/30 is fast, its disk drive accepts MS-DOS data disks, and its slot offers expansion. The SE/30 packs a lot of power and function into a small box.

The model I tested came with 4MB of memory and an 80MB hard-disk drive. Another SE/30 model comes with only 1MB and a 40MB drive. Apple has also announced a third model, with 1MB of memory but without a hard-disk drive.

Using the well-illustrated manual, setup is simple. The ports across the back for printer, modem, keyboard, stereo sound, and mouse are clearly marked. The SCSI port handles such high-speed peripherals as a scanner or external hard-disk drive.

Once the hardware was set up, it took me a few minutes with one of the supplied utilities to configure the 80MB hard-disk drive and install the latest version of Apple's System software (6.0.3). Not only is the drive superfast at launching programs and opening and saving files, but it's also the quietest hard-disk drive I've ever used.

With 4MB of memory, I was able to take full advantage of *MultiFinder*, part of the System software that allows you to run several programs at once. For example, by using *MultiFinder* and compatible software, I was able to simultaneously print a document on a laser printer, download a large file from CompuServe, and write this review.

Since each procedure (printing, downloading, writing) steals time from the microprocessor, the SE/30 paused and hesitated periodically as I scrolled through the word processor. When Apple releases the next



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upgrade of the System (version 7.0), however, the full multitasking power of the SE/30 should be unleashed.

COMPARISON SHOPPING

What makes the SE/30 different from the less expensive SE and similar to the more expensive Mac IIx and IIcx? Let's compare features and benefits:

- The SE/30's microprocessor—the same as the IIcx's and IIx's—is a 68030 that runs at 15.667MHz, about twice as fast as the SE's 68000. After working with the speedy SE/30 in my office, I returned to my "old" SE at home, and it seemed so slow that I wished I could junk it. (But I didn't.)

- The SE/30 includes a 68882 math coprocessor (just like the IIx and IIcx), which can increase the speed of numeric calculations 100-fold in some software—such as spreadsheets and object-oriented graphics. The SE is sold without a coprocessor.

- The SE/30's built-in floppy drive, called Floppy Drive High Density (FDHD) and nicknamed Superdrive, is multitasked. It holds 1.4MB of data and can format, read, and write 400K, 800K, and 1.4MB Mac floppy disks. In contrast, the SE's 800K drive can't handle 1.4MB floppies.

In addition, with the help of *Apple File Exchange (AFE)* software, the FDHD can read and write both 720K and 1.44MB MS-DOS 3.5-inch disks. (Using *AFE*, both the SE and the SE/30 can read and write 800K Apple II ProDOS disks.)

- The SE/30, like the IIcx and IIx, can hold up to 8MB of RAM using 1MB single inline memory modules (SIMMs), which are memory chips on a card. A standard SE will hold no more than 4MB of memory. As multitasking grows more feasible, large amounts of memory become a requirement, not a frill.

- The SE/30's sound chip yields four-voice stereo, as do the chips in the II, IIcx, and IIx, giving you access to high-quality digitized music and synthesized speech. The older SE's sound chip, while decent, is not stereo and gives you only one voice.

- The SE/30's 256K ROM (read-only memory), also on removable SIMM cards, can be replaced with future upgrades. The SE/30's ROM is basically the same as the IIcx's and IIx's, meaning full support for color with an external monitor attached. In contrast, the SE's ROM is soldered to the motherboard, making upgrades difficult.

- The SE/30's 120-pin internal slot is incompatible with both the SE's 96-pin slot and the Mac II's 96-pin NuBus slots. The main advantage of this change is that cards installed in the SE/30 are full 32-bit bus cards that communicate directly with the computer's 68030 microprocessor, which means the cards can potentially work faster than even Mac II cards. The disadvantage, for now at least, is the small number of available compatible cards (which must be installed by a dealer). For example, there are no cards to connect the new Apple two-

page and portrait monitors to the SE/30.

WHO NEEDS THE SE/30?

The bad news about the SE/30 is its high price. At almost \$6,700 with keyboard, a loaded SE/30 (with 4MB and an 80MB hard disk) is not the most cost-efficient tool you can buy. And while you could get the 1MB version for \$1,700 less, you'd be missing out on MultiFinder benefits (running several programs at once requires at least 2MB).

Who would benefit most from an SE/30? If you need the classic small Mac case (for the sake of desk space or portability), there's no more powerful Mac you can get. The SE/30's multitasking capability and easily replaced ROM chips mean you won't be shut out as future improvements hit the Mac world. If you're doing graphic-intensive work (such as desktop publishing), calculation-intensive work (such as accounting), or dealing with very large files of any sort, the SE/30's speed will be a particular pleasure. All operations, especially redrawing the screen, happen much faster than with previous small Macs.

But if your main computer tasks are writing, keeping track of contacts, and working with medium-size spreadsheets, an SE or 286-based MS-DOS computer will suffice. Alternatively, if you want a Mac with a full-size or color screen, the more expensive IIcx will give you all of the SE/30's capabilities plus easier expandability.

MACINTOSH SE/30 AND IIcx VS. MS-DOS 386 COMPUTERS

Their computing speed, fast hard-disk drive, slots, and multitasking capability make the SE/30 and IIcx as fast and powerful as a 20MHz 80386-based MS-DOS machine. To compare features and prices, we have chosen relatively expensive (Compaq) and inexpensive (Dell) 386 machines, both of

which are considered top performers. Except for the Mac SE/30, all systems are color. Adding OS/2 with *Presentation Manager* to the MS-DOS machines—to give them a graphic mouse-based operating system like the Mac—would add about \$340 to the cost.

Company/Model	Apple Mac SE/30	Apple Mac IIcx	Apple Mac IIx	Compaq Deskpro 386/20e	Dell System 310
Suggested Retail Price					
w/1MB of RAM	\$4,498	\$6,445	\$7,045	\$6,018	n/a
w/1MB of RAM and 40MB HDD	\$4,998	\$7,145	\$7,745	\$7,418	\$4,299
w/4MB of RAM and 80MB HDD	\$6,698	\$8,845	\$9,445	n/a	n/a
w/4MB of RAM and 90MB HDD	n/a	n/a	n/a	n/a	\$6,009
w/5MB of RAM and 110MB HDD	n/a	n/a	n/a	\$11,817 ²	n/a
Microprocessor	Motorola 68030	Motorola 68030	Motorola 68030	Intel 80386	Intel 80386
Clock Speed	15.67MHz	15.67MHz	15.67MHz	20MHz	20MHz
Math Coprocessor	Motorola 68882	Motorola 68882	Motorola 68882	Optional	Optional
Memory (Maximum on the motherboard)	8MB	8MB	8MB	1MB	8MB
Floppy-Disk Drive	1 (3.5-inch 1.4MB)	1 (3.5-inch 1.4MB)	1 (3.5-inch 1.4MB)	1 (5.25-inch 1.2MB)	1 (5.25-inch 1.2MB)
Available Expansion Slots	1	2	5	4 (3 with 5MB)	6
Hardware					
Keyboard	Included ¹	Included ¹	Included ¹	Included	Included
Mouse	Included	Included	Included	Optional	Optional
Monitor	Built-in monochrome	Color ¹	Color ¹	Color ¹	Color
Video card	Built-in	Included ¹	Included ¹	Built-in	Included
Ports	All 3 Macs come with 2 ADB (Apple Desktop Bus); 1 SCSI (small computer system interface); 2 serial; 1 sound; 1 floppy-disk drive (except on the Mac IIx)			1 mouse; 1 parallel; 1 serial	1 parallel; 2 serial
Software	System (6.0.3) Finder (6.1) System Tools HyperCard Utilities	System (6.0.3) Finder (6.1) System Tools HyperCard Utilities	System (6.0.3) Finder (6.1) System Tools HyperCard Utilities	MS-DOS 3.3 GW-BASIC Utilities	MS-DOS 3.3 GW-BASIC Utilities
Warranty (months)	3	3	3	12	12

Key: HDD = hard-disk drive; n/a = not available; not a standard configuration offered by the manufacturer. This configuration may be available from a local dealer. ¹Not included as part of the standard configuration; the extra cost has been added to the suggested retail price. ²Includes the Compaq memory expansion card, which comes with 4MB of RAM and can hold an additional 8MB.



MACINTOSH IIcx

Small, Colorful, Powerful

RATING: ★ ★ ★ ★

The Macintosh IIcx, the latest model in Apple's so-called modular line, offers the same memory, hard-disk storage, speed, math coprocessor, stereo sound, and multi-talented floppy-disk drive as the Mac SE/30, with more options and expandability. Compared with the two other IIs, the IIcx has a faster microprocessor than the Mac II, the same microprocessor as the IIx, and fewer expansion slots than either of them.

The II and IIx have five available slots, the SE/30 has one, and the IIcx has two (three without a monitor). Like other II models, the IIcx doesn't have a built-in monitor, but allows a variety of options. Despite its greater versatility, the IIcx is a relatively sleek machine, less than three inches wider than the SE/30. In addition, the IIcx can stand upright on a desk and take up even less room.

My IIcx review unit came with 4MB of RAM, an 80MB hard-disk drive, and a color monitor and video card. I also tested a two-page monochrome monitor and monochrome video card. You can buy the computer in other configurations (see chart), but to set up a comfortable working environment, I think you need at least 2MB (though Apple doesn't sell this exact configuration).

Setup is simple. Remove the top of the system unit with a screwdriver, install the video card (as you would on an Apple IIe or MS-DOS computer), and connect the monitor cable.

Working with the IIcx and its color monitor, I felt like a kid seeing color TV for the first time. The AppleColor High-Resolution

RGB monitor can display up to 256 vivid colors on the screen at once, when used with the right video card and software. (When using color software on a monochrome monitor with the correct video card, you see shades of gray instead.) The on-screen image draws oohs and ahhs from everyone. And the 13-inch viewing area is a big relief after the 9-inch monitor on most Macs. Unfortunately, the color monitor and video card cost \$1,047. (A 13-inch monochrome monitor costs \$399, plus \$199 for the monochrome card.)

The image on the 21-inch Apple Two-Page Monochrome Monitor (\$2,149, plus \$599 for the video card) is sharp, with a maximum resolution of 1,152 by 870 dots. This monitor doesn't flicker as many large monitors do. Using MultiFinder on my 4MB machine, I can open four programs at once and divide the screen into four equal sections, each of which is about the same size as the old 9-inch built-in screen. The

UPGRADE FOR SE OWNERS

Apple Computer is offering SE owners a two-step upgrade to the SE/30. In step one, Apple dealers will replace the logic board and chassis, giving you the SE/30's 68030 microprocessor, 68882 math coprocessor, new ROM, and most other internal parts. In step two (which requires step one), the dealer will upgrade your 800K floppy-disk drive to the new FDHD 1.4MB Superdrive, giving you the ability to swap files with MS-DOS users. Step one costs \$1,699, and step two \$499.

other major use for the monitor is designing page layouts.

The new 15-inch Macintosh Portrait Display Monitor (\$1,099, plus \$599), which displays a life-size page of text and graphics, also works with the IIcx and other models in the II line. The Portrait Display has three Apple Desktop Bus connectors, so you can connect a mouse and keyboard directly to the monitor and put the system unit on the floor or above your desk.

The design of the Mac modular line allows for easy expansion. You can add memory or expansion cards (such as a second video card) in your home, rather than taking the computer back to a dealer, as you must with the SE and SE/30. Virtually all 32-bit expansion cards designed for the Mac II and IIx work on the IIcx. The II, IIx, and IIcx systems let add-on cards identify themselves, so there's no need to set switches to configure a system.

COMPARISON SHOPPING

It's difficult to compare apples and oranges (or, in this case, Apples and IBMs), but it's only natural to try. Based on my experience with a wide range of computer systems, the Mac IIcx is best compared with a 20MHz Intel 80386-based computer. The Mac IIcx costs about the same as a comparably equipped Compaq Deskpro 386/20e, which is about the most expensive MS-DOS model, but significantly more expensive than the Dell System 310, also a highly regarded 386 machine. The problem is not so much that the Mac is overpriced but that the buyer has no alternatives. In the MS-DOS world, the buyer can choose from a wide range of manufacturers. In the Macintosh world, Apple is the only game in town.

But the Mac IIcx does offer one major advantage that the 386 machines do not: Its graphics-based operating system is polished and runs all Mac software. While *Windows* and *Presentation Manager* will make MS-DOS and OS/2 computers look and act much like Macs, the majority of existing software is not designed to be used with them.

For this and other reasons, the Macintosh operating system is light years ahead of MS-DOS and OS/2. For instance, I can actively use all 4MB on my IIcx. This is especially useful for graphics work, since it requires so much memory. On my MS-DOS computer I can use only 640K unless I install OS/2. And if I install OS/2, I need an extra 1.5MB of valuable memory just to run it.

WHO NEEDS A MAC IIcx?

The Mac IIcx performs flawlessly, and the color monitor and easy-access slots make it a more versatile machine than the SE models. I'd recommend that anyone who wants to buy a Mac should favor the IIcx over the SE/30. The color system is quite expensive, but a monochrome system costs only \$900 more than an SE/30. ■

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—Info World, Oct. 1988

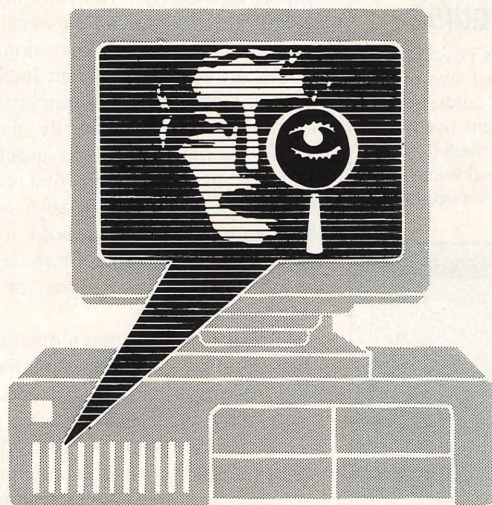
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—Jerry Pournelle, Byte Magazine, May, 1989

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—Info World, Vol. 11, Issue 7
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—Mark Brownstein, Info World

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—Winn L. Rosch, PC Week

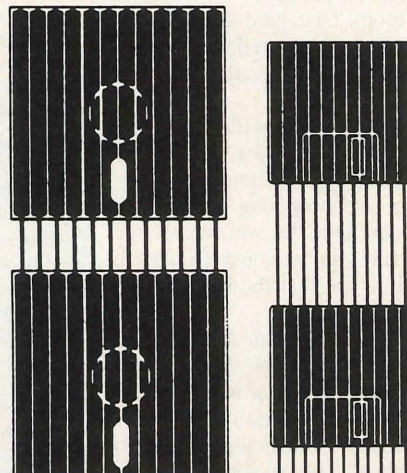
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A New Breed of Cordless Phones: Worth a Second Look

BY STEVE USDIN

What to Look for And Reviews of Four Popular Models

Cordless telephones aren't just for fun anymore. Recent improvements in sound quality and features make them sensible alternatives for business use, and they help provide the flexibility that many of us want from our work-at-home lifestyle.

These phones consist of two units: a stationary base and a portable handset. The base, which is plugged into a jack like a normal phone, acts as the relay station between the handset and the phone line, and provides power for recharging the handset. The handset may be left on the base unit or kept at a second location until recharging is necessary. Most models include antennas on both the base and handset.

EVALUATING A CORDLESS PHONE

The two most important factors in selecting a cordless telephone are the sound quality and the range (how far the handset can travel from the base unit without distorting or losing the sound). You should test both before making a purchase. Call a friend using the remote unit and listen for the crackle of interference or the deterioration in clarity and volume as you distance yourself from the base. Move around to see how much interference is produced by electrical activity in the room. Disregard the manufacturer's range claims, which reflect ideal circumstances and are rarely matched in real life.

When you are satisfied with the sound quality and range, investigate the battery life—how long can you use the remote before recharging, and how long does it take to recharge? Some units let you replace the battery yourself; if you are considering such a model, check to see that the batteries are easily accessible.

Finally, pay close attention to durability and design. Handsets may be dropped and treated roughly, and their antennas may get entangled and snap off as you move about. A flexible whip-style antenna will absorb much of this abuse, but if you prefer the



From left to right: PacTel CS8400, AT&T Cordless Telephone 5500, GTE WalkMate, and Northwestern Bell Phones Excursion 3620S

more attractive (and common) telescoping antenna, make sure that it pivots in all directions and that it can be replaced easily.

RECOMMENDED FEATURES

Beyond the standard features, there are many options that make cordless phones "smarter." Most phones provide automatic dialing (typically for five to ten numbers).

Better models enable you to include pauses (for example, for long-distance services) within stored numbers. A personal phone-top directory, where you write the names of people next to the corresponding speed-dial buttons, is convenient. Another popular feature is one-button redial of the last number called.

One feature you may want is a Flash button, especially if you have such services as call waiting and call forwarding on your phone line. These services, along with others that are supplied by your local telephone company, require you to quickly depress the hook—that is, momentarily hang up the phone. Using the hook is unreliable: You may fail to leave your first call (if you depress the hook too briefly) or you may lose both calls (if you hold it down too long). The dependable Flash button sends the phone company a signal of the proper length every time.

As many of the phone's functions as possible should be available on the handset. With powerful batteries, handsets can be functionally independent of the base unit. Useful handset features are redial, Flash, and speed-dialing functions. High-end units have intercom and paging features on both the base and the handset, allowing communication between the two.

ABOUT THIS MINIGUIDE

This miniguide includes reviews of four cordless telephones suitable for the home office. They are the newest standard cordless telephone from AT&T and a representative model from each of the major cordless manufacturers not previously covered. For additional reviews, see "Cordless Phones Reviewed in Previous Issues" on page 54.

REVIEWED IN THIS ISSUE

Computer:
Micro Express ME 286-20

Fax Board:
Ricoh ImageCard Fax System

Monitor:
NEC MonoGraph System

Printer:
Canon LBP-8II T Laser Beam Printer

Cordless Telephones:
AT&T Cordless Telephone 5500
GTE WalkMate
Northwestern Bell Phones Excursion 3620S
PacTel CS8400

KEEPING THE LINE CLEAR

Some cordless phones can use more than

one channel (radio frequency), permitting users to select a channel and change it if interference lowers sound quality. More sophisticated models may provide up to 10 channels. Units that automatically scan all available frequencies and select the one with the clearest signal provide the best sound.

Early cordless telephones were plagued by hijacking. Anyone with a handset could make a call from any responding base unit within range. Today's models employ a digital security system to protect against hijacking. The security system transmits a series of signals or codes between the base and the handset. If the codes match, the phone allows a call to be made. If they don't, the phone cannot be used.

Some models use a manual system that requires the user to set the code with a series of DIP switches. An automatic security system is preferable because the system randomly chooses a code whenever the handset is lifted from the base.

No cordless phone provides all the features discussed here. (If it did, it would probably be too complicated to use.) The four phones reviewed below cover the range of features available today.

AT&T Cordless Telephone 5500

RATING: ★ ★ ★

The AT&T Cordless Telephone 5500 is a solid, high-end unit with a range that, in my tests, extended 75 feet before the person I was calling noticed a difference in sound quality. Selection among the nine channels is performed manually.

Both the handset and the base unit have an easily read, black-and-white keypad for controlling all functions. One caveat: Receiving or terminating a call away from the base requires you to use two buttons.

The small keys on the base unit leave room for a large, high-quality speaker, making this unit a good selection for people who prefer speakerphones. The memory holds only nine telephone numbers. The rechargeable batteries last up to seven days—one of the longest lives in the industry. Recharging takes 10 hours.

GTE WalkMate

RATING: ★ ★

A variation on cordless phones, *cordfree* phones are designed to be used near the base unit. Like other cordfree phones, the Walk-

Mate is very similar to a conventional corded telephone, except that there is no cord connecting the handset to the base unit. The bell and dialing pad are on the base unit rather than on the handset, so the user must be in the same room as the base unit to receive or place a call. The user is supposed to be able to wander up to 200 feet from the base during the call, but in my experience, conversations were inaudible beyond 30 feet, and, within that range, quality was inconsistent.

Because the WalkMate has only the conventional handset, the user must return to the base for even such basic functions as using the Flash button to transfer from one call to another. The phone is otherwise simple to use. A 20-number speed-dial memory is accessed by the simplest one-button-per-number method. Redial, Flash, and Hold buttons are also easy to find. Although the base unit has a large footprint, the keypad is very small and might be a problem for the less nimble.

The handset and base unit are built to withstand the kind of abuse telephones often take. The handset is ordinarily kept on the base unit, so it is constantly being charged.

FOUR CORDLESS TELEPHONES: A SIDE-BY-SIDE COMPARISON

	AT&T Cordless Telephone 5500	GTE WalkMate	Northwestern Bell Phones Excursion 3620S	PacTel CS8400
Manufacturer	AT&T 5 Wood Hollow Rd. Room 3H14 Parsippany, NJ 07054 (800) 222-0300	Code-A-Phone Corp. 16261 SE 130th St. Clackamas, OR 97015 (503) 655-8940	Northwestern Bell Phones 9394 W. Dodge Rd. Suite 100 Omaha, NE 68114 (402) 390-8600	PacTel Products 50 Fremont Ave. 20th Floor San Francisco, CA 94105 (415) 882-8700
Suggested Retail Price	\$250	\$140	\$200	\$140
Rating	★★★	★★	★★	★★
Memory (numbers)	9	20	20	10
Range (feet)	No Claim	250	No Claim	1,000
Number of Channels	10	1	10	2
Features				
Battery Saver	Handset	No	Both	Handset
Channel Selection	Manual; Handset	No	Auto	Manual; Handset
Flash	Both	Base	Both	Both
Hold	Both	Base	Base	Handset
Intercom	Yes	No	Yes	Yes
Lighted Dial	Handset	No	No	No
Mute	Both	No	Both	Base
Out-of-Range Alert	Handset	No	No	Handset
Paging	Both	No	Both	Both
Pause	Both	Base	Base	Handset
Redial	Both	Base	Base	Both
Ring Selection	Base	Base	Base	Base
Security Codes	Auto	Auto	Manual	Auto
Speakerphone	Yes	No	Yes	Yes
Speakerphone Volume Control	Yes	No	Yes	Yes
Tone/Pulse Switch	Base	Base	Base	Base
Wall Mountable	No	Yes	Yes	Yes
Dimensions (inches)				
Base	8.5 by 7 by 2.8	9.5 by 7.3 by 1.9	9.4 by 6.6 by 2	12 by 8 by 4
Handset	8.3 by 2.3 by 1.8	8 by 2 by 2.4	8.2 by 2.3 by 1.7	8 by 1.5 by 2.3
Warranty (years)	One	One	One	Three

Key: Auto = no user intervention required; Base = feature present only on base unit; Both = feature present on both base and handset; Handset = feature present on handset only; Manual = feature set by user; ○ Poor; ★ Average; ★★ Good; ★★★ Very Good; ★★★★ Excellent.

Northwestern Bell Phones Excursion 3620S**RATING:** ★ ★

This model has an 18-key handset that includes a two-way intercom, yet lacks the hold and redial functions found on the base. The 20-number memory can be accessed from either the base or the handset, but it's inconvenient: The memory buttons are located away from the directory. The base uses a two-button sequence—an Up/Lo key and then a letter between A and J. The handset calls for a totally different 00 to 19 code. The operation of the intercom is also cumbersome: There's no indicator light to show when you have entered that mode. The base keypad is large, but the small, light gray labeling on a dark cream background might be hard to read in low light.

Automatic scanning of 10 available channels enhances reception quality. The dial tone was lost beyond 30 feet, and even

within that range, long-distance calls from the handset often failed to go through. Battery recharging requires 24 uninterrupted hours. Security is achieved through manual selection from 256 security codes.

PacTel CS8400**RATING:** ★ ★

PacTel equipped the handset of the CS8400 with the base's most desirable features using a somewhat complicated 21-key pad (a little color coding might have helped). The extra keys provide handset access to Flash, redial, intercom, and page. The handset is small, sturdy, and lightweight.

The range is advertised as 1,000 feet, but voices were unintelligible beyond 50 feet and subject to scattered interference within that range. A warning beep sounds when you near the edge of the range, and you can

choose from two channels to improve sound quality.

The phone includes intercom and page functions, as well as mute and speaker options on the base. The ringer on either half of the set can be turned off. The CS8400 includes an automatic digital security system that chooses one of 64,000 security codes whenever you remove the handset from the base.

Cordless Telephones Reviewed in Previous Issues

AT&T Cordless Telephone 5310—July 1988
Cobra Two-Line Cordless CP-473S—August 1988
Panasonic Cordless KX-T3000—November 1988
Panasonic Cordless KX-T3800—May 1989
Southwestern Bell Freedom Phone FF-1700—February 1989

A Top-rated NEC Monitor, An Affordable Computer, and a Heavy-duty Laser Printer

About Our Reviews and Ratings

Each month, HOME-OFFICE COMPUTING's Hardware Reviews take an in-depth look at new and worthwhile computers, peripherals, fax machines, copiers, phones, and other hardware.

Our reviewers set up the equipment in their own home offices. After heavy use and extensive testing, they rank each item on the basis of suitability for the home office and on overall value, taking into account performance, features, ease of setup, ease of learning and use, documentation, size, expandability/versatility, support, availability, warranty, and value for the money.

Then, the HOME-OFFICE COMPUTING Hardware Testing Lab conducts its own battery of tests (a printer speed test, for example) and verifies manufacturers' specifications. Finally, our technical editors weigh the reviewers' rankings, the lab test results, and their own experience to determine an overall rating on a scale of zero to four stars:

○	Poor	★★★	Very Good
★	Average	★★★★	Excellent
★★	Good		

Note on Hardware Requirements:

Any product listed as requiring an IBM PC/XT/AT or compatible should also work with an IBM PS/2 Model 25, Model 30, or Model 30 286.

Competitive Mail-Order AT Compatible

Micro Express ME 286-20

Micro Express, 2114 S. Grand Ave., Santa Ana, CA 92705; (714) 662-1973; (800) 642-7621

RATING: ★ ★ ★

SUGGESTED RETAIL PRICE: \$2,949 (plus \$35 shipping)

MICROPROCESSOR: Intel 80286 (20MHz); socket for 80287 (math coprocessor)

MEMORY: 2MB, expandable to 4MB on the motherboard

DISK DRIVES: 3.5-inch 1.44MB floppy-disk drive or 5.25-inch 1.2MB floppy-disk drive and 80MB hard-disk drive with access speed of 28 ms; 3 half-height bays available for expansion

PORTS: One parallel, one serial

FREE EXPANSION SLOTS: 6 AT-type (8/16-bit), 2 PC-type (8-bit)

OTHER HARDWARE INCLUDED: NEC Multi-Sync II monitor, 16-bit Paradise VGA card

SOFTWARE INCLUDED: LIM/EMS 4.0, setup, diagnostics

OPTIONS: MS-DOS 3.3 (\$89), additional 5.25-inch 1.2MB floppy-disk drive (\$129), additional 3.5-inch 1.44MB floppy-disk drive (\$159); system available with 40MB (28 ms access speed) instead of 80MB hard-disk drive (\$2,649)

DIMENSIONS: 21 by 5.5 by 16.5 inches

WARRANTY: 15 months

In the computer arena, mail-order products have always had a rough time competing with name brands. But mail-order buying is becoming widespread as more people are looking into these reasonably priced products. Micro Express, founded in 1986, is one of many up-and-coming mail-order companies that manufacture their own line of computers.



The Micro Express ME 286-20 is a full-powered 20MHz 80286 system. It includes 2MB of RAM (most 286-based computers come with only 1MB), a 3.5- or 5.25-inch floppy-disk drive, an 80MB hard-disk drive, a Paradise VGA card, and an NEC MultiSync II monitor. You do, however, have to purchase MS-DOS separately (\$89).

Micro Express provides a sturdy, full-size housing for the CPU, but it seems to have scrimped on the keyboard. Although there are separate cursor controls, the keyboard is not as responsive as others I've used.

It was possible for me to adjust to the keyboard, but I don't think I could get used to the reset button's location on the front of the system. Even though many newer systems have reset buttons in the same spot, it's too easy to cause a disaster by pressing the button accidentally.

Some skeptics may think that ordering a computer from a mail-order company means that you have to put the entire system together yourself—piece by piece. The Micro Express comes fully assembled, the way it would if purchased from a store. The VGA card is already installed inside the ME 286-20 (so there is no need to take apart the system and tinker around), and the hard-disk drive comes preformatted. The user's manuals are clear, so you should have no trouble getting the system up and running.

The NEC MultiSync II's screen display is sharp and clear, and the VGA card's performance is impressive. The ME 286-20 configuration (CPU, keyboard, monitor, and VGA card) is as reliable as that of any other IBM compatible.

Micro Express plans to begin offering on-site service this month, along with its existing toll-free telephone diagnosis and repair service. After discussing a problem with a technician, a customer can request the necessary replacement parts from the company for a do-it-yourself job, pack up the entire machine and send it back to Micro Express (at his or her own expense) for repair, or have a technician repair it on-site.

The ME 286-20 is a great 286-based system for the price—despite the qualms I had about the keyboard and the reset button. And it costs about \$1,000 less than a comparable Dell System 220.

—CHARLES BERMANT

Impressive Full-Page Display System

NEC MonoGraph System

NEC Home Electronics (U.S.A.) Inc., 1255 Michael Dr., Wood Dale, IL 60191; (312) 860-9500

RATING: ★ ★ ★ ★

SUGGESTED RETAIL PRICE: \$1,999

SCREEN SIZE (DIAGONAL): 16 inches

MAXIMUM RESOLUTION: 1024 by 1024; 640 by 400 in CGA-emulation mode

HARDWARE REQUIREMENTS: IBM PC/XT/AT or compatible

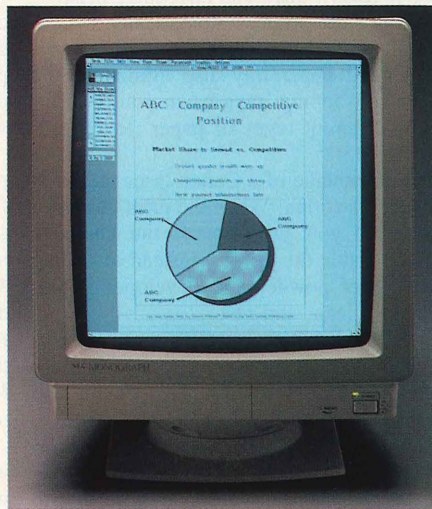
OTHER HARDWARE INCLUDED: Video cable, tilt/swivel base

SOFTWARE DRIVERS INCLUDED: Microsoft Windows (all versions), Xerox Ventura Publisher (all versions), Digital Research's GEM/3, WordPerfect v5.0, Zsoft's Publisher's Paintbrush, Autodesk's AutoCAD 9, Delrina Technology's PerFORM

MONITOR DIMENSIONS: 14.2 by 14.3 by 16.8 inches

CARD DIMENSIONS: PC full length (13.4 by 3.9 inches)

WARRANTY: Two years monitor; one year card and labor

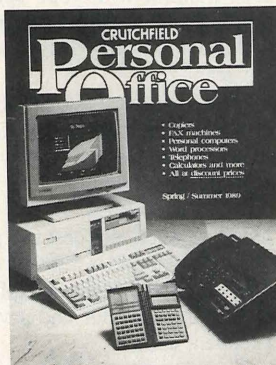


Most people's first reaction to a full-page monitor's display is "Wow!—this looks fantastic! But what can I use it for?" Full-page monitors are designed especially for desktop publishing and computer-aided de-

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sign (CAD). They generally display black text on a white background and allow you to view an entire printed page on-screen at once, eliminating the need to scroll through various displays. You can also use a full-page monitor with your spreadsheet, word processor, or drawing programs; but it's in desktop publishing that it makes the biggest impact.

If you spend less than 40 hours a month doing desktop publishing, it may be difficult to justify the purchase of a full-page monitor—it can cost anywhere from \$1,000 to \$2,000. However, if you spend over 10 hours a week on desktop-publishing projects, you should seriously consider buying one. The NEC MonoGraph System (comprised of a monitor and a video card) is an excellent choice.

The MonoGraph comes with various software drivers. If you are using programs other than those supported by these drivers, the programs will still work as long as the software supports CGA mode. The image or text displayed may occupy only a portion of the screen.

The documentation is good, except for the lack of information about hooking up the monitor to an existing VGA system (using your full-page monitor as a secondary monitor). As it turns out, the procedure is exactly the same as for an EGA system.

What makes this monitor stand out from the competition? Its 10-by-10-inch screen can be used for portrait or landscape (page-orientation) layouts, and the clarity of its display is excellent, especially for viewing very small text.

After using the NEC for a few months, I can't imagine doing any full-page layout without it. I just wish its video cable were 18 inches longer. I had to rearrange my entire computer setup in order to accommodate the monitor . . . but that was a small price to pay.

—STEVEN C.M. CHEN

Canon's Swift Laser Printer

Canon LBP-8II T Laser Beam Printer

Canon U.S.A., Inc., One Canon Plaza, Lake Success, NY 11042; (516) 488-6700

SUGGESTED RETAIL PRICE: \$3,950

RATING: ★ ★ ★

MEMORY: 512K, expandable to 4.5MB

MAXIMUM SPEED: 8 pages per minute (ppm)

PAPER TRAYS: 2 (200 sheets each)

DUTY CYCLE: 5,000 pages per month

BUILT-IN FONTS: 8

FONT-CARTRIDGE SLOTS: 2

INTERFACES: Parallel and serial



PRINTERS EMULATED: Canon, Diablo 630; optional emulation cartridges for Epson and IBM Proprinter (\$195 each)

OPTIONS: 1MB memory-expansion board (\$500), envelope cassette (\$75), legal cassette (\$75)

SOFTWARE INCLUDED: Printer drivers for various programs available free via bulletin-board service ([516] 488-6528)

DIMENSIONS: 18 by 19.5 by 12.3 inches

WARRANTY: One year

The LBP-8II T is one of the latest in Canon's line of laser printers. Canon is best known for its laser-printer engines, which can be found in the popular Apple LaserWriter and Hewlett-Packard LaserJet series printers.

Setting up the printer is simple; it should take you no more than one hour to have it fully operational. I actually spent more time unpacking the LBP-8II T than putting it together. (It weighs about 60 pounds, so you may want to have someone help you lift it out of the box.)

The printer has two paper trays, which come in handy when you have large printing jobs, since the printer automatically switches to the second tray when the first is empty. The second paper tray also eliminates the need for swapping trays when you're printing on different types of paper (letterhead, for example).

One advantage of a Canon laser printer is the toner cartridge. When the print begins to get fuzzy, you just replace the cartridge (located inside the printer) instead of adding messy toner powder and developer liquid. It's easy, clean, and fast.

The LBP-8II T has excellent print quality. Its type is just as good as an HP laser printer's—sharp and clear. This Canon also prints at the respectable speed of 8 ppm.

The absence of HP-laser-printer emulation may be a problem for some users. You can get around this obstacle with Metro Software's *LaserTwin* (\$179; [602] 299-7313, [800] 621-1137), a memory-resident program that emulates the HP. It worked flawlessly with the LBP-8II T.

Overall, the Canon LBP-8II T is an excel-

lent printer—both in print quality and speed. And at a street price of \$2,700 (easily found in New York), it's a good deal.

—STEVEN C.M. CHEN

Fax Board Has Many Problems

Ricoh ImageCard Fax System

Ricoh Corp., 5 Dedrick Pl., West Caldwell, NJ 07006; (201) 882-2000

RATING: ★

SUGGESTED LIST PRICE: \$1,175

HARDWARE REQUIREMENTS: IBM PC/XT/AT or compatible, 640K of RAM, hard-disk drive, DOS 2.1 or higher, CGA, EGA, or VGA

COMPATIBILITY: Group 3

MODEM SPEED: 9600 baud (automatic fallback)

RESOLUTION: Standard (203 by 96)

FEATURES: Activity log, background operation, broadcasting, delayed transmission, transmit terminal identification, transmission report

SOFTWARE INCLUDED: *ImageCard* utility software v1.2

FILE FORMATS SUPPORTED: ASCII, CCITT, Dr. Halo, PC Paintbrush, WordStar

PRINTERS SUPPORTED: AST Turbo Laser, Epson FX series, Hewlett-Packard LaserJet series, Okidata 92/93

OPTIONS: *ImageNet* v2.0 (\$95)

DIMENSIONS: PC full length (13.4 by 4.2 inches)

WARRANTY: One year hardware, 90 days software

The ImageCard is a fax board from one of the leaders in the fax-machine industry—Ricoh. Like other fax boards, the ImageCard lets you send and receive documents directly from and to your computer. It includes the usual features, such as background operation, so you can use your computer for other things while faxing, and delayed transmission, so you can take advantage of lower overnight phone rates.

The ImageCard does everything it's supposed to do. Unfortunately, it doesn't perform as well as other fax boards, including several lower-priced ones. All fax cards must conform to the same communication standard as fax machines; there are technical differences in the competing hardware, but for the most part, it's the software that sets the different models apart. Software is the ImageCard's main problem, but not the only one.

The installation of the ImageCard board was easy. It fits in a full-size slot with no problems, and the instructions were clear and easy to understand. One point gave me pause, though: The manual noted that the card should not be placed next to a memory expansion board but didn't explain why.

I was surprised that the phone cord sup-

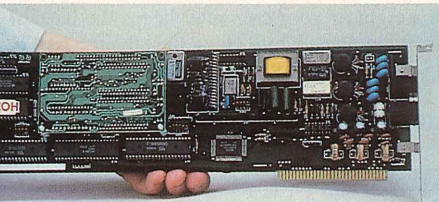
plied with the package had a nonstandard modular connector at the board end and a standard connector at the other. This was not an immediate problem, but most fax boards and modems use cords with standard modular connectors at both ends so they can be replaced easily if they become damaged.

I started to get anxious when I loaded the software onto my hard disk and attempted to run it. I got an error message that repeated the word *Message*, the date, the time, and those cute little happy faces that show up when something is destroyed. I watched it fill up the screen; it continued to loop until I stopped the process and went to the manual—another problem area.

The ImageCard's manual is printed in landscape mode, that is, sideways. There is nothing wrong with printing in landscape mode; I just find it harder to read. Also, the manual has no index, troubleshooting chapter, or technical-support number.

I called directory assistance and got Ricoh's main telephone number (the manual did have Ricoh's address). The technical-support person was pleasant and tried to help. I'll spare you the details, but it took us an hour on the phone to discover that the problem was with a DOS driver that I use. I've tested nearly a dozen fax boards in this computer and have never had any problems, until now.

I finally got the ImageCard to work; it's okay, but not a standout. It does send and



receive Group 3 faxes, but I can't recommend it. The menu system for the program is not intuitive. I found myself going to the manual to try to find my way through the software, but the lack of an index made my searches long and arduous.

Any one of these problems alone—poor manual, difficult-to-understand software, or absence of a troubleshooting guide—would not make me lose confidence in a product, but when I add them all up, my patience wears thin. Sorry, Ricoh—love your laser printers, but your fax board needs work.

— STEVE MILLER

This review is based on Miller's experience with the Ricoh ImageCard v1.20. The new version, ImageCard v2.03, includes support for image scanners and LIM/EMS v4.0 and simplifies the menu system for the software. The new version should be available now. For more on fax cards, see the miniguide to fax boards in the May issue of HOME-OFFICE COMPUTING. ■

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BY MARIE ALVICH



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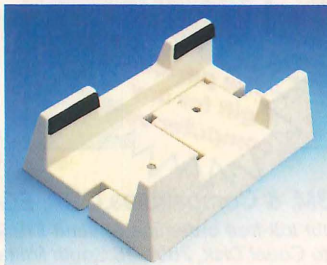


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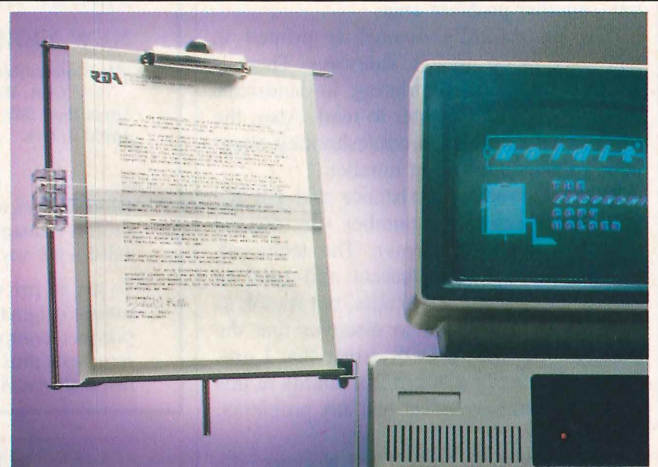
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CIRCLE READER SERVICE 106

MARIE ALVICH is associate technical editor for HOME-OFFICE COMPUTING.

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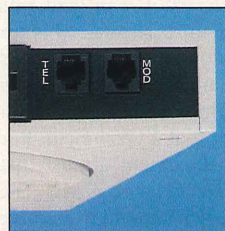
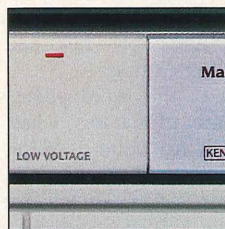


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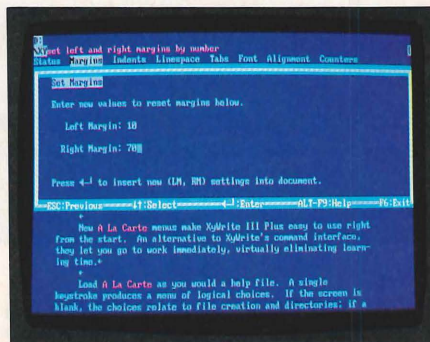
Plus: A Sophisticated Database for Nonprogrammers and Forms Software for MS-DOS and Mac Systems

Our reviews of application software use shorthand to describe several of the details associated with any package. This is particularly true under "System Requirements"—where the minimum system configuration is noted—so we have provided the following table of computers for you to refer to as needed. Hardware, software, and memory are required unless noted as "recommended" or "optional." When more than one computer is listed under "System Requirements," the machine marked with an asterisk (*) is the type on which the software was reviewed. Requirements are *not* listed where obvious (for instance, printers with word processors or modems with communications programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher. Since most productivity software is not copy protected, we have indicated—with the letters "CP"—only those programs that are copy protected. The version listed is the version reviewed; publishers may release subsequent versions at any time.

Designation Models

128K Apple	IIe/IIc/IIgs (in IIe/c mode) and compatibles
128Ke Apple	IIe (enhanced ROM)/IIc/IIgs (in IIe/c mode)
Apple IIgs	IIgs only
IBM PC, PS/2	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

Ratings Key: ○ Poor; ★ Average; ★★ Good; ★★★ Very good; ★★★★ Excellent.



Despite its complexity, XyWrite III Plus's speed and power are hard for writers to resist.

XyWrite III Plus

VERSION REVIEWED: 3.54

SYSTEM REQUIREMENTS: 384K IBM PC or PS/2; one drive (two drives recommended; menus require 720K or greater drives); CGA, EGA, VGA; DOS 2.1 or higher; 5.25-inch or 3.25-inch

PUBLISHER: XyQuest, 44 Manning Rd., Billerica, MA 01821; (508) 671-0888

PRICE: \$445

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★ ★

XyWrite III Plus reminds me of a champion racehorse—incredibly fast and powerful, but a little high strung.

Because of this word processor's speed and vast array of features, I had been wanting to try it for quite a while; but I was reluctant to put the time into learning a program that I had heard was pretty complicated. When XyWrite came out with optional menus—called A La Carte menus—designed to make the program easier to use, I was eager to try it. I'm glad I did.

In less than a second, this amazing program can do a search and replace that took my steady old steed what seemed like minutes to complete. Even without scientific tests, I saw that XyWrite can find a word in a 20-page document almost instantly—and that's on a regular 4.77MHz PC clone. In my work, which often involves repeated searches, this speed is so important that I'd be willing to overlook certain deficiencies in ease of use. Luckily I didn't have to.

Coupled with the menu system, the clearly written booklet-style tutorials made the

learning curve much less prohibitive than I had anticipated (I wish XyWrite also had an interactive on-screen tutorial, but the booklets work well). Although there are a few functions you can't get at through the menus, most are listed, including file creation and management, document formatting, creating and changing directories, mail merge, sorting, spell checking, word counting, numbering an outline, and a simple macro-creation feature (which XyWrite calls a *save/get*).

To use the menu, you press a function key and several choices appear above the text area. Type a letter (F for File or D for Directory, for instance) and you're off. With menus, it's pretty easy to start writing almost immediately, although you won't learn some of the helpful features—like hidden notes—until you examine the well-organized reference manual.

I also found that XyWrite's alternative to menus—the old-fashioned command line—is not that difficult. I press a function key, which brings the cursor to the top line, type a couple of letters (for example, *sa*, when you want to save a file), and press Enter. Most of the commands are logical and easy to remember.

What's great about the command system is that once you've learned it, you can write what XyWrite calls *user programs* (another name for macros) with those same basic commands—you don't need to learn some arcane programming language. User programs allow you to combine two or more commands for automatic execution. You create a XyWrite program by telling the word processor to record your commands as you perform them, and XyWrite stores your procedure as a special "program file." Then you create a *save/get* macro to run the program file with a keystroke or two.

Within a few days of installing XyWrite, I was creating macros that I never would have attempted with my old word processor—I'm usually uncomfortable with that sort of thing. Although I don't feel ready to tackle anything described in the manual's "Advanced User Programming" section, I can already customize XyWrite to suit my work habits. For instance, I can boldface an existing word—a procedure that normally takes more than a dozen keystrokes—with a single keystroke combination such as Alt-B. This capability, combined with the speed, makes XyWrite a program I felt I couldn't live without after about a week.

There are many other superb features. You can create special fill-in forms—for invoices or address labels, for example. You set up a master form, then call up a copy that you fill in and print out on preprinted forms. Other useful features include four-function math, style sheets, chain printing, columns, snaking columns, indexes, tables of contents, footnotes, endnotes, redlining, four different ways to check your spelling—including automatic corrections as you write—business and legal spelling dictionaries, a thesaurus, nine windows (which can be adjusted to whatever size you desire), and the ability to alter the function of keys on your keyboard in a seemingly infinite variety of ways.

Because XyWrite is so adjustable, if it isn't doing what you want it to do, you can call the free telephone-support line (not a toll-free number), tell them your problem, and often they'll say, "Oh, yes. We have a program that takes care of that. We'll send it to you." So far they've sent me one on-disk program to alter screen colors, one to help save files on two different drives at the same time, and yet another to save automatically—and it was all free. Two more for handling my new printer are on the way. On one call I did identify myself as a reviewer, but I was treated equally well when I called anonymously.

XyWrite III Plus has so much going for it that it's hard to resist—even with its complexity. If you like to ride far and wide at breathtaking speed, this one's a winner.

—LISA KLEINHOLZ

PC-Write

VERSION REVIEWED: 3.02

SYSTEM REQUIREMENTS: 384K IBM PC or PS/2 (448K required for spelling checker); one drive (two drives recommended); CGA, EGA, VGA, Hercules, MDA; 5.25-inch or 3.5-inch

PUBLISHER: Quicksoft, Inc., 219 First Ave. N., #224, Seattle, WA 98109; (206) 282-0452

PRICE: \$99

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★

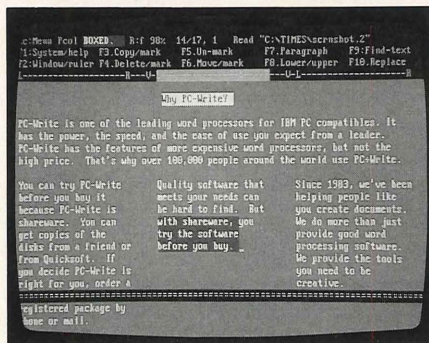
EASE OF USE: ★ ★

SUPPORT: ★ ★ ★

I ran into an old friend a couple of weeks ago. "PC-Write," I exclaimed. "Look how you've grown!"

PC-Write smiled modestly. "Thanks. I can do columns and cut-and-paste now. I'm better at guessing what people mean when they misspell words. I'm more helpful to writers than I used to be, too."

"So I see!" I was impressed. I could remember the early days of personal com-



The command-driven PC-Write is feature filled, but sometimes complicated to use.

puting when PC-Write was just a tyke hanging around bulletin boards and users' group meetings looking for work. Now my little friend sported an attractive hardcover manual, mail merge, and those parallel columns PC-Write was so proud of. Yet PC-Write still lives up to its reputation for speed and flexibility.

This multifeatured word processor still comes with its famous try-before-you-buy guarantee, too. That's because PC-Write is shareware. You order a copy for little more than the cost of the disks or get one for free from a friend—it's legal. A quick-reference guide is included on-disk in text files you print out. If you decide to use the software regularly, PC-Write's publishers trust you to pay for it. They call it registration, but it's the same thing. There are benefits to registering, of course, including a real manual and a guarantee that you've got the most recent update. That's important, since PC-Write is being updated regularly in response to users' suggestions and the competition's advances. The publishers are straightforward about support policies, too. If you register the software, you get support (free for a year, then renewable for a small fee). If you don't, you don't.

PC-Write comes with a long can-do list, such as windows (two of them), a word-count function, and a useful screen-clip feature that makes it possible to nip out to another program, such as your spreadsheet, copy information from the screen, then nip back and insert it in the current PC-Write document. Jump commands let you move quickly to a specific page or line in a document. You can also set markers to return to the same place after moving away.

The size of your document files is limited only by the computer's memory. PC-Write supports all the usual editing commands, including tricky tasks such as transposing inverted letters or changing the case of a block of text. Extras include macro commands that are automatically recorded as you perform them and color output with printers that support it. A thorough spelling checker gives you the choice of checking as you type (mistakes elicit beeps) or after

you're finished. It accurately guesses the correct spelling for most errors, including that eternal bugaboo of spell checking: reversed letters at the beginning of a word. You can use the spelling checker to help build an index for a document as well.

PC-Write offers many formatting choices, including six different combinations of ragged, justified, or centered margins and many font types. PC-Write supports more than 600 printers, including 6-year-old "antiques" like my Brother HR-1 (most other word processors have never heard of it) as well as the latest models. It prints headers and footers, endnotes as well as footnotes, and can alternate page numbers for bound documents. PC-Write's mail merge can reformat while printing and use variable-size type for effective, professional-looking letters.

PC-Write's weaknesses lie more in how it works than in what it doesn't do. Many procedures are awkward to carry out. For example, customization beyond that involved in initial setup means adding cryptic numbers to a control file. Footnotes are complicated to insert: You must indicate notes with begin and end codes within the text, which makes it difficult to footnote text in the middle of a paragraph. Despite its efficiency, the spelling checker is particularly awkward to operate—you have to prompt it to make a guess each time it finds a misspelled word, then prompt it again to search for the next error.

I don't mean that PC-Write is poor-quality software. Most programs in PC-Write's price range—that's assuming you register it—do far less. I think PC-Write is just going through adolescence. It's leaving behind its powerful but rough-and-ready childhood and catching up with the polished and commercial self it's sure to become. Right now the command-driven PC-Write may not be the best word processor for novices, but the power for the price is exceptional.

—TAN A. SUMMERS

Clarion Personal Developer

VERSION REVIEWED: 1.0

SYSTEM REQUIREMENTS: 512K IBM PC or PS/2; two drives or hard-disk drive; CGA, EGA, VGA, Hercules; DOS 2.1 or higher; 5.25-inch or 3.5-inch

PUBLISHER: Clarion Software Corp., 150 E. Sample Rd., Pompano Beach, FL 33064; (305) 785-4555

PRICE: \$169

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★

EASE OF USE: ★ ★ ★

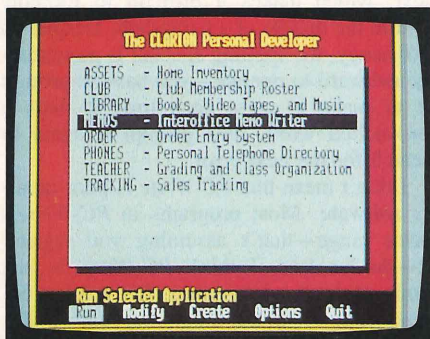
SUPPORT: ★ ★ ★ ★

Even if you've never written a single line of

code—and never plan to—*Clarion Personal Developer* lets you create a personalized phone directory, an inventory-management system, a custom order-processing program, and nearly any other type of database application. The applications you create are menu driven, which helps make them more obvious to operate, and you can pass them along without charge for other people to use, even if they don't own *Clarion*.

The package includes samples of the kinds of applications, also called programs, that you can create—such as one that tracks clients, sales leads, and products sold—and you can customize these applications to your own needs. Once you have created a program, you can even sell it.

Clarion is sophisticated—you cannot just pick it up and start working. Fortunately, the package comes with several excellent tutorials and a software feature called Quick Start that lets you create simple but useful programs right away. Once you become comfortable with Quick Start, you can use *Clarion*'s modify function to customize the programs. As you do, your skills begin to grow. Your biggest limitation in program development will be your imagination.



Creating sophisticated databases with *Clarion* is simplified through its menus.

Considering everything *Clarion* does, it's really easy to use. First you define the file(s) that your program will use and the fields of information that you want to track. For instance, if you were developing an inventory for insurance purposes, you might define your file as My Items, with fields called Room, Item, Quantity, Serial Number, and Value. Next you define your menus (menu selections can even call up other menus). Then you develop each selection's function. For an inventory, menu choices might include Display Inventory (whose function would be to show all items on-screen), Sort by Room (which would arrange items by room), and so forth.

You determine how to operate your *Clarion* application by creating data-entry forms, lookup screens, scrolling tables, and reports. To control the appearance of each screen, you add colors, change the size and locations of menus, and define your reports'

formats. You can store and work with words, numbers, dates, or strings of text—most forms of data. You can also link files together so that when data is entered in one file, another is updated automatically, which saves time and increases accuracy.

Clarion's documentation includes a useful on-disk tutorial that provides your first clue to the program's potential. Then the two tutorials in the manual teach you how to use Quick Start and how to create a customized application. There is on-line help, as well as a reference section in the manual, to help you set up your own programs. The extensive documentation should help you become comfortable with *Clarion* quickly.

The only problem I encountered resulted from an error in the manual. A report I was printing was supposed to check a "serial number" field. If a number was entered in the field, the report was supposed to include that record in a printout. The report didn't work because the manual listed the testing criteria incorrectly. A call to technical support quickly corrected the problem.

When I first called, all of the tech-support people were busy, but they promised to call me back and did within the hour. They walked me through the steps I had taken and easily found where I had made my mistake. They also told me that I could call up their bulletin board for technical support. If I left a question or message, they would get an answer back to me within 48 hours. It's good to have both—I prefer to talk to a person directly, but it would probably be easier to use the bulletin board.

All in all, *Clarion Personal Developer* is exceptional. While it might not have as broad an audience as a word processor does, it is definitely worth investigating if you have special database needs. With *Clarion*, you can create an operational application the first time you use it. To use *Clarion* to its fullest extent, you need practice and a creative imagination. It's not a simple program, but with the tutorials, the examples, the on-line help, and the excellent reference manual, it is easy to use. —BROOKS HUNT

FormSet

VERSION REVIEWED: 1.1

SYSTEM REQUIREMENTS: 512K Macintosh*; two drives (hard-disk drive recommended). Also for 640K IBM PC or PS/2; two drives (hard-disk drive recommended); CGA, EGA, VGA, Hercules; mouse recommended; DOS 3.0 or higher; 5.25-inch or 3.5-inch

PUBLISHER: Softview, Inc., 4820 Adohr Ln., Suite F, Camarillo, CA 93010; (805) 388-2626

PRICE: \$95

OVERALL PERFORMANCE: ★ ★ ★

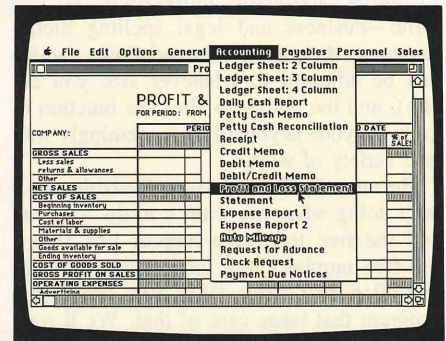
DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★

EASE OF USE: ★ ★ ★

SUPPORT: ★ ★

Businesspeople require specific tools: A writer needs a typewriter or word processor, for instance, and a contractor uses a calculator and drafting equipment. But one tool is needed by almost every business—the form.



With 75 preformatted forms, *FormSet* offers tools for almost any type of business.

It might be an invoice for services rendered, a purchase order for a store, a packing slip for a mail-order business, or a telephone memo, but everyone uses forms.

I'm sure you use forms, too. Maybe you create your own or maybe you buy generic ones from the stationery store. Or, maybe you create a new form every time you invoice a client and write your memos on a scrap of paper or the back of an envelope. Now you may not need to do that anymore. Softview's *FormSet* includes many commonly used forms, preformatted so that all you need do is customize them with your company name, address, telephone number, and a simple logo.

FormSet's 75 forms are divided into five groups:

- General forms include a job estimate, contractor's agreement, credit application, office memo, reply message, and letterhead.
- Accounting forms include an auto-mileage record, check request, credit memo, debit memo, expense report, four types of past-due notices, a profit/loss statement, receipt, petty-cash memo, and more.
- Sales forms include a bill of lading, daily, weekly, and monthly sales records, two types of invoices, a sales order, packing list, prospect list, and more.
- Personnel forms include an earnings statement, employment application and record, employee review and warning, two forms of individual payroll, a personnel change, separation notice, and more.
- Payables include two types of purchase orders and a receiving report.

I didn't list all the forms, but this should give you an idea of the variety this package offers. You select forms from pull-down

menus in the five categories. Forms that have been started but not completed are listed in an outline font, and completed forms are underlined—so you can quickly see what to do.

When it comes to operation, *FormSet* really shines. The forms are connected through a master program and seem to have their own intelligence. Forms are linked; that is, data entered in one form is recorded in another form when pertinent. For example, the invoice summary form is linked to the actual inventory forms. If the data to be entered in a block is unknown or an estimate, indicate this and the information is also carried forward. Forms with estimates or unknowns are listed in the menu as incomplete, and when you call them up you can jump to those incomplete blocks with a simple command. Also, form entries “know” what type of data is supposed to be entered in each blank. You cannot enter letters in a number block, and *FormSet* will warn you if you try to make inconsistent entries. For instance, if the method of payment is indicated as cash, you will be warned if you try to check the form’s Visa box.

All forms have preset data-entry blocks for text or numerical information. Those that have totals will calculate automatically. You can set the program so that the Tab key takes you to the next blank block. Also, you can select a large or small display font. The larger size is easier to read on-screen, but the smaller size shows what the printed form will look like. Because the program includes blank formats for all 75 forms, it takes a long time to load; however, the user’s manual tells you how to delete unneeded forms and thus speed up loading.

The two books that make up *FormSet*’s documentation—a user’s guide and a forms guide that shows all of the forms—are excellent. The user’s guide provides general directions and then gives specifics on the several sets of linked forms. There is also limited on-line help, which provides general information about your current on-screen form and line-by-line assistance.

Although usually easy to operate, *FormSet* is sometimes frustrating. For instance, forms that have multiple-line blocks for data entry, such as the contractor’s agreement, make each line a separate piece of data, so there’s no word wrap from line to line. The program does not beep to tell you when you are at the end of the line, so you must constantly check the screen. I also had trouble with multiple-line blocks in which the first line of the block follows such unchangeable form information as a company logo. When I used the cursor keys to move to this kind of block, the cursor missed the block’s first line. In addition to reducing the amount of space available for data, this problem also made the form show as incom-

plete, because that part of the block contained no data. Because blocks do not have word wrap, it took several minutes of typing and deleting to correct the problem. When I asked *FormSet*’s technical-support people about this, they said the next version would fix the cursoring-to-the-next-blank problem and include word wrap.

Another problem I encountered was the inability to change a form’s fonts. I reviewed the Macintosh version and have an ImageWriter LQ printer. One way the LQ normally provides high-quality output is by using a font that is three times the actual printed font and scaling it down, but *Form-*

Set forces you to use its supplied fonts and will not allow substitution. Because of this, I ended up with a rather jagged printout. The tech-support people indicated they would be providing larger LQ fonts in the near future as well.

FormSet provides you with a set of customized general forms. If you need only one or two forms, it might be more economical to buy them preprinted or pay more for a program that lets you create truly customized forms. But if you use many of these forms and you like the format, then *FormSet* is well worth strong consideration.

— BROOKS HUNT

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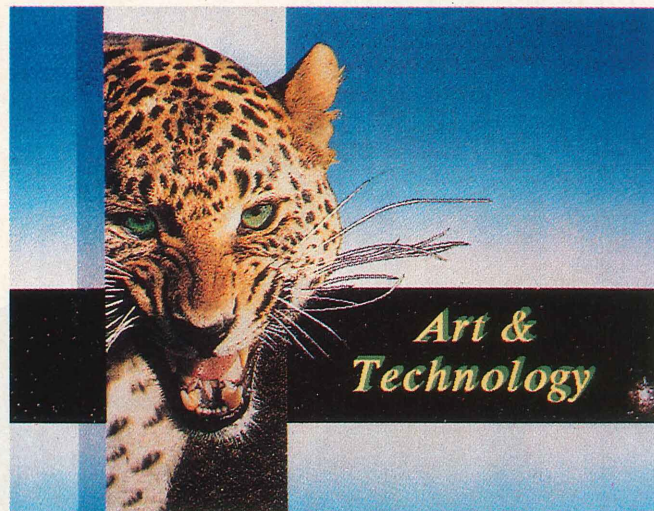
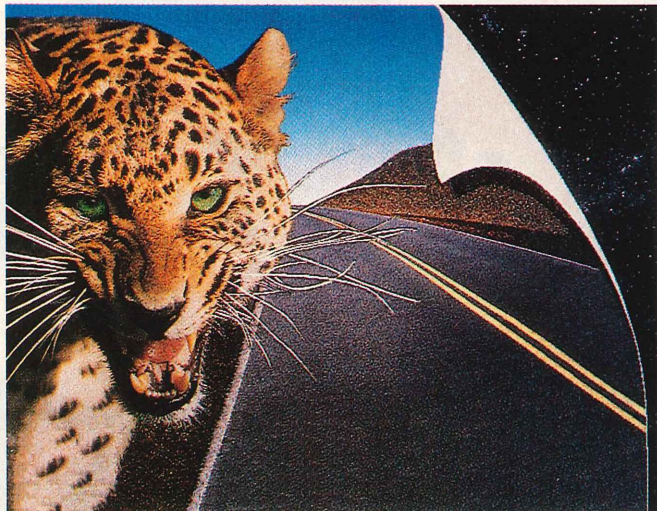
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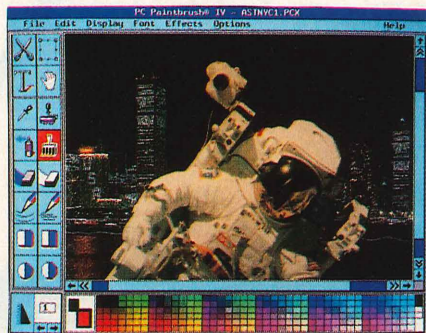
I B M	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	I B M
	<ol style="list-style-type: none"> 1. Lotus 1-2-3 v2.01 <i>Lotus Development Corp.</i> 2. TurboTax Federal <i>ChipSoft</i> 3. WordPerfect v5.0 <i>WordPerfect Corp.</i> 4. TurboTax California Supplement <i>ChipSoft</i> 5. ProComm Plus v1.1 <i>Datastorm Technologies</i> 6. Windows/286 v2.10 <i>Microsoft Corp.</i> 7. Direct Access v4.1 <i>Delta Technology Int'l.</i> 8. Sideways v3.2 <i>Funk Software</i> 9. Freelance Plus v3.0 <i>Lotus Development Corp.</i> 10. Allways <i>Funk Software</i> 	<ol style="list-style-type: none"> 1. The Print Shop w/Graphics Library <i>Broderbund Software</i> 2. Managing Your Money v5.0 <i>MECA</i> 3. Calendar Creator Plus <i>Power Up Software Corp.</i> 4. PrintMaster Plus Bonus Pack <i>Unison World Software</i> 5. WillMaker v3.0 <i>Nolo Press</i> 6. Micro Cookbook <i>Pinpoint Publishing</i> 7. Print Magic <i>Epyx</i> 8. Dream House <i>Computer Easy Int'l</i> 9. NewsMaster II <i>Unison World Software</i> 10. Certificate Maker <i>Springboard Software</i> 	<ol style="list-style-type: none"> 1. Learning DOS v2.0 <i>Microsoft Corp.</i> 2. Math Blaster Plus <i>Davidson & Associates</i> 3. Where in the World . . . <i>Broderbund Software</i> 4. Where in the USA . . . <i>Broderbund Software</i> 5. Reader Rabbit <i>The Learning Company</i> 6. Think Quick! <i>The Learning Company</i> 7. Sesame Street Letters For You <i>Polarware Software</i> 8. Typing Tutor IV <i>Simon & Schuster</i> 9. Barron's Study Program for the SAT <i>Barron's Educational Series</i> 10. Math Rabbit <i>The Learning Company</i> 	<ol style="list-style-type: none"> 1. Flight Simulator v3.0 <i>Microsoft Corp.</i> 2. The Duel: Test Drive II <i>Accolade</i> 3. F-19 Stealth Fighter <i>MicroProse Software</i> 4. T.V. Game Shows <i>ShareData</i> 5. Jack Nicklaus' Golf <i>Accolade</i> 6. California Challenge <i>Accolade</i> 7. The Super Cars <i>Accolade</i> 8. Grand Prix Circuit <i>Accolade</i> 9. Earl Weaver Baseball <i>Electronic Arts</i> 10. Scrabble <i>Electronic Arts</i> 	
	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	
	<ol style="list-style-type: none"> 1. Excel v1.5 <i>Microsoft Corp.</i> 2. MacDraw II v1.1 <i>Claris Corp.</i> 3. S.U.M. <i>Symantec Corp.</i> 4. PowerPoint v2.01 <i>Microsoft Corp.</i> 5. Tops v2.1 <i>Tops, Inc.</i> 6. PageMaker v3.0 <i>Aldus Corp.</i> 7. File Maker II <i>Claris Corp.</i> 8. Suitcase II v1.2 <i>Fifth Generation Systems</i> 9. Virex v1.3 <i>HJC Software</i> 10. MacWrite II <i>Claris Corp.</i> 	<ol style="list-style-type: none"> 1. Quicken v1.0 <i>Intuit</i> 2. MacInTax Federal <i>Softview, Inc.</i> 3. The Print Shop <i>Broderbund Software</i> 4. MacInTax California Supplement <i>Softview, Inc.</i> 5. SuperPaint v2.0 <i>Silicon Beach Software</i> 6. Calendar Creator v1.0 <i>Power Up Software Corp.</i> 7. World Class Fonts! Vol. 1&2 <i>Dubl-Click Software</i> 8. WetPaint Vol. 1&2 <i>Dubl-Click Software</i> 9. Poster Maker Plus <i>Broderbund Software</i> 10. Dinner At Eight <i>Rubicon Publishing</i> 	<ol style="list-style-type: none"> 1. Where in the World Is Carmen Sandiego? <i>Broderbund Software</i> 2. Mavis Beacon Teaches Typing <i>The Software Toolworks/EA</i> 3. Manhole <i>Mediagenic</i> 4. NumberMaze <i>Great Wave Software</i> 5. Reader Rabbit <i>The Learning Company</i> 6. Math Blaster! <i>Davidson & Associates</i> 7. Type! <i>Broderbund Software</i> 8. HyperTutor <i>Power Up Software Corp.</i> 9. Once Upon a Time . . . <i>Compu-Teach</i> 10. Kids Time <i>Great Wave Software</i> 	<ol style="list-style-type: none"> 1. Falcon v2.0 <i>Spectrum HoloByte</i> 2. Life & Death <i>The Software Toolworks/EA</i> 3. Hunt for Red October <i>Datasoft/EA</i> 4. Leisure Suit Larry <i>Sierra On-Line</i> 5. Flight Simulator v1.02 <i>Microsoft Corp.</i> 6. The Toy Shop <i>Broderbund Software</i> 7. Dark Castle <i>Silicon Beach Software</i> 8. Arkanoïd <i>Discovery Software</i> 9. Tetris <i>Spectrum HoloByte</i> 10. Shufflepuck Café <i>Broderbund Software</i> 	
M A C I N T O S H	BUSINESS	HOME/SMALL BUSINESS	EDUCATION	ENTERTAINMENT	M A C I N T O S H
	<ol style="list-style-type: none"> 1. Copy II Plus <i>Central Point Software</i> 2. AppleWorks v2.1 <i>Claris Corp.</i> 3. TimeOut QuickSpell <i>Beagle Brothers</i> 4. WordPerfect v1.1 & v2.0 <i>WordPerfect Corp.</i> 5. Publish-It! v2.0 <i>Timeworks</i> 6. Graph-It! <i>Timeworks</i> 7. ProTerm v2.1 <i>Checkmate Technology</i> 8. List & Mail <i>Avery</i> 9. AppleWorks GS <i>Claris Corp.</i> 10. TimeOut SuperFonts <i>Beagle Brothers</i> 	<ol style="list-style-type: none"> 1. The Print Shop w/Graphics Library <i>Broderbund Software</i> 2. Quicken <i>Intuit</i> 3. Bank Street Writer Plus <i>Broderbund Software</i> 4. The Print Shop Sampler Graphics <i>Broderbund Software</i> 5. Print Magic <i>Epyx</i> 6. The Print Shop Companion <i>Broderbund Software</i> 7. The Print Shop Party Graphics <i>Broderbund Software</i> 8. Managing Your Money v3.0 <i>MECA</i> 9. The Print Shop Holiday Graphics <i>Broderbund Software</i> 10. Cartooners <i>Electronic Arts</i> 	<ol style="list-style-type: none"> 1. Math Blaster Plus <i>Davidson & Associates</i> 2. Where in the USA . . . <i>Broderbund Software</i> 3. Where in the World . . . <i>Broderbund Software</i> 4. Mavis Beacon Teaches Typing <i>The Software Toolworks/EA</i> 5. Children's Writing and Publishing Center <i>The Learning Company</i> 6. The Oregon Trail <i>MECC</i> 7. Think Quick! <i>The Learning Company</i> 8. Sesame Street Letters For You <i>Polarware Software</i> 9. Reader Rabbit <i>The Learning Company</i> 10. Barron's Study Program for the SAT <i>Barron's Educational Series</i> 	<ol style="list-style-type: none"> 1. Dungeon Master <i>FTL Games</i> 2. John Madden Football <i>Electronic Arts</i> 3. Advanced Dungeons & Dragons Pool of Radiance <i>Strategic Simulations/EA</i> 4. Choplifter and David's Midnight Magic <i>Broderbund Software</i> 5. Hardball <i>Accolade</i> 6. Wings of Fury <i>Broderbund Software</i> 7. California Games <i>Epyx</i> 8. Dive Bomber <i>Epyx</i> 9. Zany Golf <i>Electronic Arts</i> 10. Who Framed Roger Rabbit? <i>Buena Vista</i> 	
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The Next Generation



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effects, pictorial charts and intricate patterns. You can also capture screens, graduate colors, make 3-D or shadowed letters, edit text, combine images from several sources — and much more.

The power to enhance.

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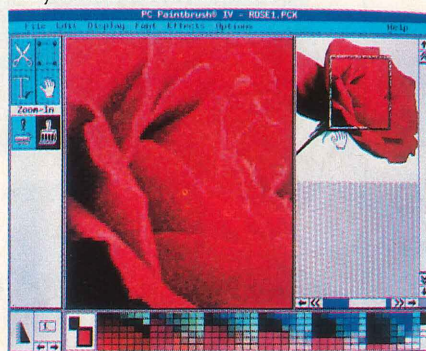
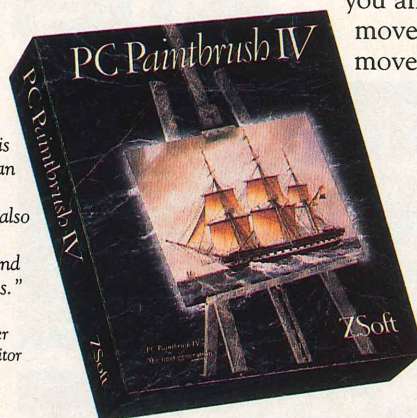


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Michael Miller
Executive Editor
InfoWorld
5/1/89

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CORPORATION

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Telex: 6502859318

CIRCLE READER SERVICE 52

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640KB RAM required. Image size severely limited by available DOS memory.
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*To upgrade, send \$35 plus \$4.90 shipping and handling and your original disk of PC Paintbrush, Microsoft Paintbrush or LogiPaint to: ZSoft Upgrade, Dept. WL, P.O. Box 8123, San Francisco, CA 94128. Specify 5.25" or 3.5" disk. CA (6%) and TX (7.5%) residents, add sales tax. Canadian customers, add \$15.90 for air shipping. Outside N. America, add \$15.90 for surface shipping or \$24.90 via air. Payments must be in U.S. funds by check, money order, VISA, MasterCard or American Express.



How to pick an when everyone in



Let's face it. Being chosen to choose machines for the office is not always an honor. Everybody in the place has his own set of priorities, and you're elected referee. The problem is, everyone also gets to second-guess the referee.

Which means that when you're shopping for office typewriters, printers, shredders or facsimiles, you better arm yourself with a strategy you can defend.

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office machine the office is picky

even the IBMs don't have (which should not come as a surprise. We were making electronic typewriters long before they were).

No one can argue with the choice. The design and technology of these machines is known worldwide. In fact, in our native Germany, where technology is almost a state religion, AEG Olympia is number one in business machines.

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CIRCLE READER SERVICE 54

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CIRCLE READER SERVICE 53

FAMILY COMPUTING[®]

Looking for Game Opponents? Go On-line

Multiplayer On-line Games Are the Next Best Thing to Being There

BY JIM PHELAN

It's 2 a.m., and I'm only one kill away from getting on the Ace's high-scorer list. I've been behind the joystick of my P-51 Mustang for five hours, defending my country from enemy warplanes. Dozens of other multiplayer-game enthusiasts have also gone on-line tonight to play *Air Warrior*.

Periodically, I return to the base to discuss strategy with Amelia, who's flying a B-17 bomber, and the Red Baron, who's piloting a Spitfire Mark IX. Although it's late, the skies are still crowded, so I should be able to make my last mark before too long. I'm glad I work at home; nobody will see the dark circles under my eyes tomorrow.

Air Warrior is just one of the many games available to users of GENie. CompuServe, Delphi, AppleLink, Prodigy, and The Source are among the other major information services in the United States that offer multiplayer games as one of their services. Users typically pay a one-time registration fee and per-minute charges (see chart).

MULTIPLE CHOICES FOR THE MULTIPLAYER ENTHUSIAST

Despite the many useful features on-line services provide (news wires, electronic mail, financial information, travel reservations, and shopping facilities), one of the most popular offerings continues to be on-line games. And for good reason: Multiplayer on-line games are exciting, provide a forum for making friends around the country, and are highly addictive.

The games available on-line vary in complexity from board games (backgammon and checkers) to business simulations (CEO) to outer-space conquest (*Megawars III* and *Stellar Emperor*). Adventure games also appear in many forms, from the simple *Quest* to the more complex *Island of Kesmai*, which has thousands of locations. No matter what your ability or interests, you're sure to find something you'll enjoy.

JIM PHELAN is a freelance writer living in New York City who is in the process of developing his first computer game.



TOPIC OF CONVERSATION

In most on-line games, it is very easy to communicate with your opponents, usually by entering a backslash followed by any word or phrase. Your comment, with a tag designating its source, is then transmitted to all players. This interactivity gives game playing a dimension lacking in off-the-shelf programs.

You seldom forget you have a living, breathing (though invisible) opponent. Human interaction is a refreshing change of pace from standard computer opponents—their moves become predictable after many encounters.

Most on-line players use a pseudonym, which encourages more participation from those who might normally feel inhibited. It also stimulates creativity. Players develop colorful characters to go along with their names and carry on outlandish conversations.

Games with team play require a lot of cooperation: You must work out strategies for defeating the enemy and hope that your teammates don't turn on you. There is usually a general meeting area in which players like Amelia and The Red Baron can talk before play begins or arrange to meet again.

Conversations range from heated discussions of world events to more personal chit-chat; sometimes even the game is discussed. But during the game, talk is usually limited to game-related topics and friendly taunting.

If you are new to the world of on-line gaming, don't be afraid. On my first visit to CompuServe's *Island of Kesmai*, I kept getting lost and killed. I eventually made my way to the town square where people had gathered to discuss the game. I learned a lot from eavesdropping, but still wasn't comfortable with the lay of the land. Sir John, a regular *Island of Kesmai* player, noticed that I was a new kid on the block and offered to show me around.

Over the next half hour, Sir John pointed out the general store, showed me a secret entrance to the dungeon, and gave me some good advice and background information on some of the more active players. You won't get this kind of personal attention from a store-bought computer game.

TECHNOLOGY IS IMPROVING

Originally, on-line computer games could not compete with store-bought computer games. The on-line games were limited to Xs and Os for graphics and annoying beeps

for sound. Then came the machine-specific information services, which created games to take advantage of each computer's capabilities; for example, AppleLink's *MasterWord* brought exploding clouds and musical fanfare to the Apple II series. Now a whole new breed of on-line games is emerging, which allows non-machine-specific services to cater to different kinds of computers.

Special software, available on-line, relays

instructions to the information service telling it which screens to display to accommodate the graphics and sound capabilities of a player's computer. This allows Macintosh owners, for example, to play against opponents with IBM PCs. Currently GENie is at the forefront of this technology; almost half of its multiplayer games support the graphics and sound of several computers. More are on the way.

The software not only enhances play, but in some cases (*A-maze-ing* and *Air Warrior*, for instance), it allows you to practice off-line without connect charges. This feature saved me a lot of money when I was trying to earn my wings in *Air Warrior*.

COSTS ADD UP QUICKLY

Since on-line charges start at \$5 an hour (except for Prodigy, which charges a flat fee

THE GAMES ON-LINE SERVICES PLAY

Here's a list of the major information services and the multiplayer games offered by each.

Network/# Subscribers	Games Available	Type of Game	Number of Players	Team Play	System Requirements
AppleLink (703) 448-8700 (# subscribers not available)	MasterWord ^{7, 6} Blackjack ^{7, 6} Bingo ^{7, 6} Poker ^{7, 6} Slots ^{7, 6}	Word Card Board Card	1-8 1-5 1-23 1-5 1-23	No No No No No	Apple IIe/c/gs
CompuServe (614) 457-8600 (500,000 subscribers)	Baffle Blackjack British Legends Island of Kesmai Megawars I Megawars III SeaWar SpaceWar You Guessed It	Word Card Adventure Adventure War War War War Trivia	1-20 1-4 1-100 unlimited 1-10 1-100 1-4 1-8 2-6	No No Yes Yes Yes Yes Yes No Yes	All systems
Delphi (617) 491-3393 (over 100,000 subscribers)	FlipIt ⁵ Poker Showdown Quest Scramble ⁵ TQ Trivia ⁰	Board Card Adventure Word Trivia	1-2 1-5 1-30 1-4 1-100	No No Yes No No	All systems
GENie (301) 340-4000 (150,000 subscribers)	Air Warrior ^{1, 2, 3, 4} A-maze-ing ^{3, 7} Backgammon ^{1, 2, 4} Blackjack ^{1, 2, 4} Checkers ^{1, 2, 4} Chess Gemstone Gomoku Orb Wars ¹ PhraseMania Reversi Stellar Emperor Stellar Warrior	Flight Sim. Arcade Board Card Board Board Adventure Board Adventure Word Board War War	1-20 1-60 2 1-4 2 2 1-35 1-2 1-10 1-4 1-2 1-40 1-40	Yes No No No No No Yes No Yes No No Yes Yes	All systems
Prodigy ⁸ (914) 993-8000 (less than 100,000 subscribers)	CEO ⁴ Boxes ⁴	Business Sim. Board	1-5 1-2	No No	IBM PC & compatibles
The Source (703) 734-7500 (more than 70,000 subscribers)	Blackjack	Card	1-10	No	All systems

Key: 0 = occurs 4 times per week; 1 = sound and graphics for Amiga; 2 = sound and graphics for Atari ST; 3 = sound and graphics for Macintosh; 4 = sound and graphics for IBM PC & compatibles; 5 = sound and graphics for Tandy Color Computer only; 6 = sound and graphics for the Apple IIe/c/gs; 7 = being beta-tested at time of writing; 8 = only available in the following cities: Atlanta, Baltimore, Boston, Detroit, Hartford, Los Angeles, New York, Philadelphia, and Washington

CHARGES FOR USING THE SERVICES

Network	Costs	300 baud	Per Hour Charge 1200 baud	2400 baud
AppleLink	\$35 (per year)			
Peak	6am-6pm weekdays	\$15.00	\$15.00	\$15.00
Off-Peak	6pm-6am and weekends	\$ 6.00	\$ 6.00	\$ 6.00
CompuServe	\$40 (one-time)			
Peak	8am-7pm weekdays	\$ 6.00	\$12.50	\$12.50
Off-Peak	7pm-8am and weekends	\$ 6.00	\$12.50	\$12.50
Delphi	\$40 (one-time)			
Peak	7am-6pm weekdays	\$17.40	\$17.40	\$17.40
Off-Peak	6pm-7am and weekends	\$ 7.20	\$ 7.20	\$ 7.20
GENie	\$30 (one-time)			
Peak	8am-6pm weekdays	\$18.00	\$18.00	\$18.00
Off-Peak	6pm-8am and weekends/holidays	\$ 5.00	\$ 6.00	\$10.00
Prodigy	\$50 (one-time)		\$10 per month flat-fee	
The Source	\$30 one-time, \$10 monthly minimum			
Peak	7am-6pm weekdays	\$21.60	\$25.80	\$27.60
Off-Peak	6pm-7am and weekends	\$ 8.40	\$10.80	\$12.00

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the Panama Canal!

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the hearts of millions!
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Start out at the scene of the crime, questioning witnesses. To help you decipher the clues you uncover, each of these award-winning games includes a reference book filled with maps and information.

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WHERE IN THE U.S.A. IS CARMEN SANDIEGO?®
Carmen and her gang are stealing America's national treasures, and you're on their trail. Includes *Fodor's*® USA travel guide.

WHERE IN EUROPE IS CARMEN SANDIEGO?™
Carmen strikes again! This time, it's the 34 nations of Europe. To help you, you'll have the Rand McNally® *Concise Atlas of Europe* plus an on-screen Fact-finder's Database and Crimestopper's notebook.

Carmen Sandiego products are available for Apple, Apple IIcs, IBM PC/Tandy, Macintosh, Amiga and Commodore computers for suggested retail prices of \$34.95-\$49.95.

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per month), it is all too easy to spend \$50 or more in one weekend. Most companies bill your credit card, so you don't realize the damage you've done until it's too late. Such high rates cause many people to give up on-line services after a short trial period. But the games are an excellent diversion for stressed-out professionals who need a break.

You can actually win prizes by competing in some of the multiplayer trivia contests. Delphi, for example, awards \$25 of on-line time to the winner of its real-time trivia contest, which takes place four times a week. At the end of each month, the player with the highest cumulative score receives a \$100 savings bond. Because the prizes awarded rarely cover the cost of playing, most people play for the sheer thrill of competition and the company of other computer enthusiasts.

For those curious about the faces behind the personae, the Second Annual Air Warrior Convention is taking place in Dayton, Ohio, at the end of July. Besides playing with opponents in the same room, scheduled activities include a visit to the United States Air Force Museum and the Dayton International Air Show. Maybe Amelia and the Red Baron will get together.

MULTIPLAYER MODEM GAMES WITHOUT ON-LINE CHARGES

If you want to experience a multiplayer game but don't feel comfortable paying upwards of eight cents for each minute there are games for you.

The programs below allow you to play via modem against a human opponent, while taking advantage of the sound and graphics capabilities of your system. You can also practice on your computer. The only limitation is trying to find a willing opponent in your area (to avoid toll charges) who also has the game and the same type of computer as you. (Some on-line services, such as CompuServe, have message areas to help you find opponents.)

Falcon (Spectrum HoloByte). Aerial combat is emphasized in this best-selling flight simulator's advanced version. 1MB Amiga, 1MB Atari ST, 1MB Macintosh; \$50-\$60.

FirePower (MicroIllusions). Maneuver your tank through enemy territory to capture the flag while your opponent attempts the same.

512K Amiga, 512K IBM PC; \$25-\$35.

MacRacquetball (PCAI). Improve your court techniques via modem. 1MB Macintosh; \$60.

Maze Wars Plus (MacroMind). Hunt down your opponent in a large labyrinth. 512K Macintosh; \$50.

Modem Wars (Electronic Arts). The first program that allows you to play via modem against someone with a different type of computer. Quarterback your mechanical army in this futuristic football game. C 64, 384K IBM PC; \$35-\$40.

Smash Hit Racquetball II (Primera Software). Play racquetball and avoid court fees. 512K Macintosh; \$40.

688 Attack Sub (Electronic Arts). Command a U.S. attack sub in dangerous missions around the world. 384K IBM PC; \$50.

3-D Helicopter Simulator (Sierra On-Line). Fly your chopper through war-torn territories. 256K IBM PC; \$50.

Software For Learning and Leisure

Comprehensive and Capsule Reviews of New and Noteworthy Programs for Education, Family Productivity, and Entertainment

The following ratings key and table refer to full as well as capsule software reviews. Listed are various types of computers, as designated under "System Requirements," and the models included under each designation. When a review lists additional hardware, software, or memory, it is required unless noted as "recommended" or "option-

al." When a review lists more than one computer, the machine marked with an asterisk (*) is the one on which the software was reviewed. Requirements are *not* listed where obvious (for instance, printers with graphics programs). Operating system requirements, such as MS-DOS or the Macintosh System file, are listed only when they're not the standard, minimum requirement (DOS 2.0 for IBM PC or compatibles, System 3.2 for the Macintosh, or ProDOS for the Apple II). For those computer systems that can use both 5.25- and 3.5-inch disks (IBM PC and PS/2 or the Apple II), we've listed only those disk sizes that are either supplied with the software or available at no extra cost from the publisher.

Ratings Key: ○ Poor; ★ Average; ★★ Good; ★★★ Very good; ★★★★ Excellent.

Designation	Models
512K Amiga	500, 1000, 2000
48K Apple	II/II Plus/IIe/IIc/IIGs (in IIe/c mode)
64K Apple	II Plus/IIe/IIc/IIGs (in IIe/c mode)
128K Apple	IIe/IIc/IIGs (in IIe/c mode)
128Ke Apple	IIe (enhanced ROM)/IIc/IIGs (in IIe/c mode)
Apple IIGs	IIGs only
48K Atari	800/600XL/800XL/65XE/130XE
512K Atari ST	520ST/1040ST/Mega ST
C 64	C 64, C 128 (in C 64 mode)
IBM PC	PC/XT/AT, PS/2 and compatibles
128K Macintosh	128K/512K/512Ke/Plus/SE/II
512K Macintosh	512K/512Ke/Plus/SE/II
512Ke Macintosh	512Ke/Plus/SE/II
1MB Macintosh	Plus/SE/II

EDUCATION

**Audubon Wildlife Adventures:
Grizzly Bears**

PUBLISHER: Advanced Ideas Inc., 2902 San Pablo Ave., Berkeley, CA 94702; (415) 526-9100

SYSTEM REQUIREMENTS: 128K Apple, 512K Apple IIGS, 256K IBM PC w/CGA; 5.25- or 3.5-inch disks (Apple or IBM)

PRICE: \$50-\$60

PUBLISHER'S SUGGESTED AGES: 9-adult

COPY PROTECTED: No

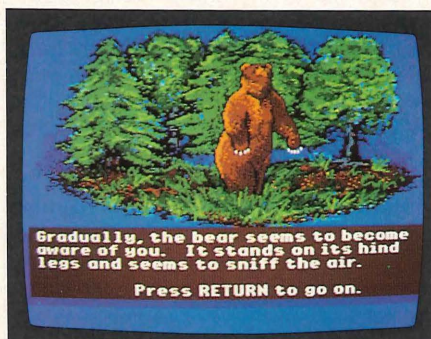
OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

ERROR HANDLING: ★ ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★ ★ ★



This grizzly has just caught wind of some bear watchers nearby.

Last summer, fire destroyed thousands of acres of timberland in and around Yellowstone National Park. Among those affected were hundreds of grizzly bears. Most of the bears managed to avoid the fire the way we might steer clear of heavy rush-hour traffic.

Unfortunately, the grizzlies are not as successful at dodging the effects of humans on the environment. Shy and unobtrusive, but dangerous when provoked, bears must give up more and more territory each year as humans harvest timber, drill for oil, and camp or hike in grizzly country. How do I know all this—and why do I care? I've been playing *Grizzly Bears*, the National Audubon Society-sponsored game that combines facts with fun in one of the most engrossing simulations ever.

My 9-year-old neighbor Jacob and I worked with on-screen grizzly expert Dr. Potts, who showed us how to use a receiver to locate a radio-collared bear. As Jacob moved the radio dial by pressing the arrow keys, the computer radio's clicking grew louder and louder, indicating that bear number 35 was near. "Would you like to take a look at him?" asked Dr. Potts. Of course we did.

Jacob and I followed Dr. Potts across a map showing areas where bears might find food. After getting bogged down in a swamp and trying to find a place to cross a swift stream, we came across a magnificent grizzly. "Let's move upwind so we don't startle him," suggested Dr. Potts. "Bears can be dangerous when startled."

Working with Dr. Potts was just the first of four absorbing activities that kept Jacob and me occupied for hours. In "Bear Encounters," we had to investigate a confrontation between campers and a grizzly that had resulted in injuries and property damage. We also had the unfortunate job of finding out the cause of a bear's death in "Grizzly Bear Mystery," and in "Oil Explorer" we learned how to balance corporate needs with those of the grizzlies when planning an oil-drilling site.

Each game involved a variety of activities. Jacob and I took turns driving the truck (with arrow keys) and typing commands as we tracked down the owner of a .30-06 rifle and performed a necropsy on the bear he killed. We were free to do whatever we wanted in each game, but if we reported to headquarters before our assignment was finished, our supervisors would remind us of the appropriate next step. When questions required specific answers, the action would pause while we checked the on-screen references.

In fact, the reference material is one of the game's highlights. The *Bear Country Handbook* includes all the information we needed to answer questions. Specific handbooks discuss oil exploration and bear management. All are easily accessible from menus, and the explanations are brief enough for younger players. Dr. Potts's database can perform two-level searches, so we learned what foods a bear might find near a stream in summer and when a bear might eat pine nuts (the food source most affected by the Yellowstone fire). The Grizzly Habitat Model used in "Oil Explorer" is a simplified version of the software that wildlife experts use to minimize damage when industry enters the bear habitat.

Grizzly Bears has a remarkable ability to keep players interested. Once a player completes the 32 orientation adventures, the computer chooses story elements at random, providing unlimited activities. Only the "Grizzly Bear Mystery" section gets repetitive. Although the details changed each time, we had to interview the same suspects again and again.

Despite *Grizzly Bears*'s complexity, it's easy to play. The excellent documentation explains each step, although you may not need it. Jacob's 8-year-old brother, Timothy, figured it out by himself without a glance at the manual. The game also comes with a glossy pamphlet filled with grizzly

lore and noncomputer activities.

Children have loved bears since long before Winnie-the-Pooh. Combining that love with our society's increasing awareness of its responsibility to protect the environment is a worthy goal that's fostered admirably by *Grizzly Bears*.

—TAN A. SUMMERS

Curious George in Outer Space

PUBLISHER: DLM, 1 DLM Park, Allen, Texas 75002; (214) 248-6300 or (800) 527-4747

SYSTEM REQUIREMENTS: 64K Apple; 5.25- or 3.5-inch disks

PRICE: \$25

PUBLISHER'S SUGGESTED AGES: 4-8

COPY PROTECTED: Yes

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★ ★ ★

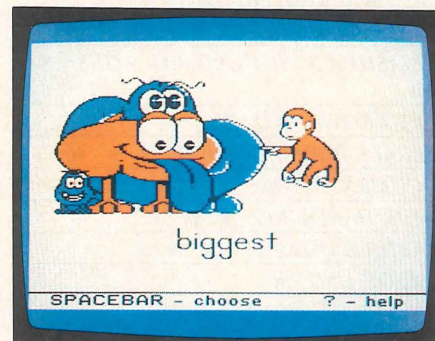
GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★

Curious George, the mischievous monkey and star of numerous children's books, is in trouble again. This time he's stranded on a mysterious planet and can't find his spaceship. For some unknown reason, the strange inhabitants will only help him if he can show that he understands these concepts: tall, taller, tallest; short, shorter, shortest; big, bigger, biggest; and small, smaller, smallest.

This is really a drill-and-practice program with an appealing disguise. The animated drawings are delightful and true to the original Curious George illustrations. The package includes a large colorful poster with worksheets on the back.

George spends most of his time with space creatures who ask him to identify which one of them is smallest or shortest or tallest. The player's task is to help George choose the right one. Written on a first-grade level, the story has four individual sections: an introduction telling how George wound up on the planet; an explanation of the characters and concepts; practice choos-



Youngsters help Curious George in Outer Space by learning size-comparison concepts.

ing a character from a description; and the search for his spaceship. The disk includes two additional games that reinforce the concepts. Players choose the concepts to be used and adjust the difficulty level.

I showed the program to a group of six kids, from kindergartners to second graders. They all liked the funny pictures and sounds and searching for the spaceship, but the first and second graders already understood the concepts being taught. Even so, they all seemed to get a kick out of seeing their friend George on the computer.

Even though the program is meant for 4- to 8-year-olds, I decided to show it to my 3-year-old neighbor Nicole. When she and her dad came over to see it, her father, who's a sophisticated computer user, was disappointed at the apparent simplicity of the program. Nicole, on the other hand, loved it. She had trouble with the size distinctions at first, but a few days later she proudly told me that I was taller than she, and she was shorter than I.

Some children may need help with cursor control. George moves automatically from creature to creature, and children must hit the Return key when he points to the correct one. This takes a fair amount of concentration and coordination, and kids sometimes answer incorrectly simply because they aren't fast enough to catch George pointing to the right answer. A time-delay option would have helped.

This is a good program for parents to play with their children. Kids will probably need help reading the story and learning the concepts, but the program is interesting and should hold their attention. It's well designed, very reasonably priced, and fun to use.

— MIRIAM FURST

Fraction Munchers

SYSTEM REQUIREMENTS: 128K Apple; color monitor recommended; joystick optional; 3.5- or 5.25-inch disks

PUBLISHER: MECC (Minnesota Educational Computing Corporation), 3490 Lexington Ave. N., St. Paul, MN 55126; (800) 228-3504 or (612) 481-3500

PRICE: \$40

PUBLISHER'S SUGGESTED AGES: 8-adult

COPY PROTECTED: Yes

OVERALL PERFORMANCE: ★ ★ ★

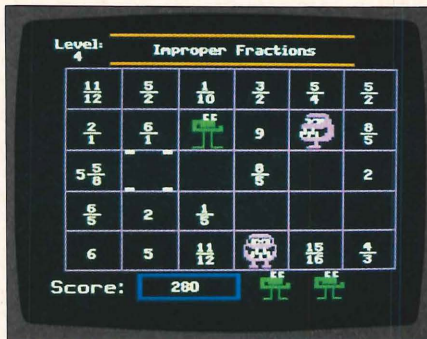
DOCUMENTATION: ★ ★ ★

ERROR HANDLING: ★ ★

GRAPHICS QUALITY: ★ ★ ★

EASE OF USE: ★

Fraction Munchers invites kids to direct a cute green Muncher through a five-by-six-inch grid of 30 cells, eating fractions that match the type displayed at the top of the



Hungry Fraction Munchers need help finding the improper fractions before the terrible Troggles get them.

screen. There are four games, and players earn points every time *Munchicus fracticus* eats a correct number.

The activities provide practice in proper and improper fractions, mixed and whole numbers, numerators, denominators, and fractional equivalents. Players get to reduce fractions to their lowest terms, compare fraction sizes to determine if a fraction is less than or greater than one half, and evaluate simple fractions. Since fractional expressions repeat throughout the grid, youngsters quickly memorize their equivalents.

Mean-looking Troggles make the game more difficult. Some Troggles travel in straight lines, others in random directions. When a Troggle enters a cell, it often devours that cell's contents, leaving another number in its place. But the *Trogglus smarticus* prefers to gobble up Munchers rather than fractions.

Players begin each game with four Munchers but lose one for every incorrect answer and every time one comes in contact with a Troggle. Munchers may seek temporary haven in special cells called safe zones. An extra Muncher is added when the score reaches 1,000 points, and again at 10,000.

To win the game, a Muncher must gobble up all the target fractions and avoid contact with a Troggle. The game becomes more difficult at higher levels. Faster-moving Troggles appear in ever-increasing numbers and varieties, while the quantity of safe zones decreases and math problems become harder.

Parents can modify the game settings, choose the games, and determine the range of numbers for each activity.

Fraction Munchers uses colorful animated graphics, sound, and entertaining arcade-like action to teach fractions. For every three levels of successfully completed play, users witness a memorable animated performance at the Muncher Olympiad. There's a special electronic-fireworks display after the 18th level. Kudos to MECC for demonstrating once again that educational software can be exciting and fun.

—CAROL S. HOLZBERG

ENTERTAINMENT

Hidden Agenda

PUBLISHER: Springboard Software, Inc., 7808 Creekridge Circle, Minneapolis, MN 55435; (612) 944-3915

SYSTEM REQUIREMENTS: 512K IBM PC* w/two disk drives (5.25-inch version) and CGA or Hercules (hard disk recommended), 512Ke Macintosh; printer optional; 5.25- and 3.5-inch disks (IBM)

PRICE: \$60

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★ ★

DOCUMENTATION: ★ ★ ★ ★

PLAY SYSTEM: ★ ★ ★

GRAPHICS QUALITY: ★ ★ ★

EASE OF USE: ★ ★ ★ ★

These days it's hard to pick up a newspaper or watch the news without seeing stories about problems in the Third World. But observing world news is a lot different from actually making the news. *Hidden Agenda* gives you a chance to fill the shoes of a political leader in Central America and learn about the issues and decisions that lie behind the headlines.

Following the overthrow of a corrupt right-wing dictatorship, you become the new *Presidente* of Chimerica, a small Central American country. You have one three-year term in which to lead your country toward economic and social well-being.

To accomplish this, you must perform a careful balancing act to keep the fragile peace among the various factions in Chimerica. You begin by choosing the members of your cabinet from the leaders of the country's three political parties. Then, ruling by decree, you try to design your policies to appease all the various interest groups: the plantation owners, the landless laborers, the Marxist guerrillas, and so on.

The most interesting quality of *Hidden Agenda* is the room it leaves for experimentation. It is very difficult to maintain a middle-of-the-road strategy, so you have to make trade-offs. Do you concentrate your favors on food producers and risk losing the support of cotton growers? Do you accept aid from the Soviet Union and risk offending the United States? All these choices, and their implications, have to be weighed before you make decisions.

You design your policies by choosing from different options presented by your cabinet members and representatives of various national and international interest groups. There is no way to present ideas of your own. This can be annoying because it leaves you at the mercy of the *hidden agendas* of your advisers and the people you encounter. For example, there were times when I wanted to convert inefficient state-

CAPSULE REVIEWS

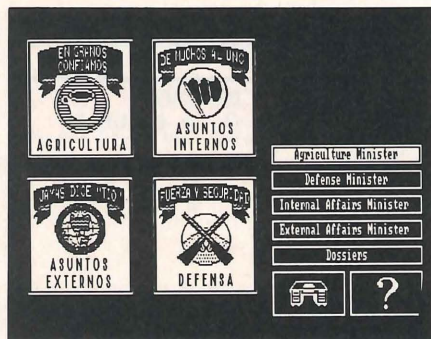
EDUCATION/FAMILY CREATIVITY

TITLE/PUBLISHER PRICE	SUMMARY	SYSTEM REQUIREMENTS	RATINGS					
			CP	O	D	EH	GQ	EU
Certificates and More! Mindscape, Inc. 3444 Dundee Rd. Northbrook, IL 60062 (312) 480-7667 \$50	Designed to let users create such items as fliers, badges, placemats, and calendars, but limited editing capabilities make changing layouts frustrating. Pre-designed templates help some, but I wanted more flexibility in font sizes. —Miriam Furst	128K Apple*, 512K IBM PC w/CGA; 5.25- or 3.5-inch disks (IBM and Apple).	Y	*	*	*	*	*
Alcohol: 4 Interactive Programs Student Awareness Software P.O. Box 18134 Portland, OR 97218 (503) 287-3530 \$90	Youngsters ages 12 to 18 learn about the dangers of alcohol abuse, how it affects health, how drinking impairs night vision, and more. Kids can also play the role of a young New York detective in charge of solving the murder of Chugger Mike or serve as a contestant on a game show testing the effects of alcohol. Highly interactive, good sound and animated graphics, and an excellent educational resource. —Carol Holzberg	48K Apple*, 256K IBM PC w/CGA or Hercules; color monitor recommended; 5.25- or 3.5-inch disks (IBM).	N	*	*	*	*	*
VCR Companion Broderbund Software Inc. 17 Paul Dr. San Rafael, CA 94903 (415) 492-3200 \$50	Lights, computer, action! Anyone age 12 to adult can design self-running desktop video presentations or customize home videos. A variety of fonts, special effects, and clip art provide the tools needed to prepare imaginative video scripts. —Carol Holzberg	128Ke Apple; VCR; RCA cable; color monitor recommended; mouse or joystick optional; 5.25- or 3.5-inch disks.	Y	*	*	*	*	*
HyperComposer Addison-Wesley Publishing Co. Route 128 Reading, MA 01867 (617) 944-3700 \$70	Subtitled "The Sound and Music Toolkit for HyperCard," <i>HyperComposer</i> lets you add up to 11,000 notes in 34 voices to any <i>HyperCard</i> stack. The toolkit simplifies the process of typing in HyperTalk play commands by automatically translating notes selected from an on-screen keyboard. Not a full-blown composition package. —Rob Gilpin	1MB Macintosh; <i>HyperCard</i> v1.2.1 or later; not compatible w/System 6.0; two 800K disk drives; hard-disk drive recommended.	N	*	*	*	*	*

ENTERTAINMENT

TITLE/PUBLISHER PRICE	SUMMARY	SYSTEM REQUIREMENTS	RATINGS					
			CP	O	D	EH	GQ	EU
Deja Vu II: Lost in Las Vegas ICOM Simulations 648 S. Wheeling Rd. Wheeling, IL 60090 (312) 520-4440 \$50	Tough in more ways than one, this hard-boiled mystery is an ultra-challenging search for clues to the whereabouts of a pile of mob money. Pay careful attention to every detail of every object and you may survive, but if you take too long it's curtains. An exceptionally clever and well-designed game, but its violent theme and barroom environment make it unsuitable for children. —Burt Hochberg	512K Amiga, 768K Apple IIGs, 512K Atari ST, 512Ke Macintosh*.	Y	*	*	*	*	*
Kings of the Beach Electronic Arts 1820 Gateway Dr. San Mateo, CA 94404 (415) 571-7171 \$40	Beach volleyball action. You can practice your moves, play a match, or bring your two-man team up through the ranks of the international beach-volleyball circuit to become king of the beach. Two players can play on the same team or against each other. An imaginative and challenging arcade-style sports game. —Steve Williams	256K IBM PC w/CGA, EGA, VGA, MCGA; joystick recommended; 5.25- or 3.5-inch disks.	N	*	*	*	*	*
Rack 'Em Accolade Inc. 550 S. Winchester Blvd. Suite 200 San Jose, CA 95128 (408) 985-1700 \$40	You can play five different games: straight pool, eight ball, bumper ball, nine ball, and snooker, but it's not nearly as much fun as the real thing. Unless you just want to practice or do trick shots, the game requires two players to initiate a full game. Excellent graphics with 3-D and top-down views are the game's best feature. —Dan Farkas	256K IBM PC w/CGA, EGA, or Hercules; 5.25- or 3.5-inch disks (IBM).	N	*	*	*	*	*
MacScuba Paradise Software Corp. P.O. Box 50996 Phoenix, AZ 85076 (602) 893-8324 \$50	Explore a sunken pirate ship for treasures while avoiding sharks in this real-time diving simulation. While underwater, you may click on several different species of marine life to learn more about them. Proper decompression techniques must be mastered for multiple dives, but only serious diving enthusiasts will bother to do so since ship exploration is monotonous. —Jim Phelan	1MB Macintosh w/two 800K disk drives or one 800K disk drive and hard disk.	N	*	*	*	*	*

Ratings Key: CP Copy Protected, yes or no; O Overall Performance; D Documentation; EH Error Handling; PS Play System; GQ Graphics Quality; EU Ease of Use; O Poor; * Average; ** Good; *** Very Good; **** Excellent; *Computer Used for Review



Select four ministers to advise you on key political issues in Hidden Agenda.

run farms into private cooperatives, but I couldn't because none of my advisers raised the issue.

During the game, the results of your decisions are reported in a series of charts that show national trends in such areas as food production, infant mortality, and domestic expenditure. Also, simulated news reports and editorials from various national and international sources help you keep track of which groups support you and which might be plotting a revolution. At the end of the game, *Hidden Agenda* gives you a summary of your decisions and their outcomes to show how your administration will be recorded in the history books.

The intelligently designed *Hidden Agenda* offers a broad overview of the issues involved in governing a small Third-World country. More important, after you play for a while, all those headlines you read might start to make a little more sense.

—STEVE WILLIAMS

War in Middle Earth

PUBLISHER: Melbourne House, 711 W. 17th St., #G9, Costa Mesa, CA 92627; (714) 631-1001

SYSTEM REQUIREMENTS: 768K Apple IIGS, 256K IBM PC* w/CGA, 384K IBM PC w/EGA, 512K IBM PC w/MCGA; 5.25- and 3.5-inch disks (IBM)

PRICE: \$50

COPY PROTECTED: No

OVERALL PERFORMANCE: ★ ★ ★

DOCUMENTATION: ★ ★ ★

PLAY SYSTEM: ★ ★

GRAPHICS QUALITY: ★ ★ ★ ★

EASE OF USE: ★ ★

Melbourne House has taken a new approach to Tolkien's Middle Earth saga. Rather than produce another text adventure in which you follow a set path, the publisher has faithfully reproduced Tolkien's Middle Earth and set you free to roam as you please. In this huge world—the map alone takes up 36 scrolling screens—you will find more than 80 characters and armies to command. A large foldout map helps with navigation.

War in Middle Earth is a curious hybrid of fantasy role-playing, military strategy, and animated adventure games. The game has three viewing levels. The Full Map Level lets you survey all of Middle Earth. The Campaign Level is a more detailed map where you can use icons and pointers to control the movements of your characters and armies. The Scene Level lets you view the individual characters and the daz-



View an army of elves marching to battle in the Scene Level of War in Middle Earth.

zling graphic backgrounds. This view will look familiar to animated adventure-game fans as you watch Frodo, Sam, and Pippin stroll across the countryside of the Shire. But you can't control the players at this level.

In order to win, you must destroy the One Ring, carried by Frodo Baggins. To do this, you must deliver the ring to Mt. Doom. Along the way, you can gather forces and many useful items. Familiar characters wait around every corner. With any luck, the mighty Gandalf will travel with you. And, of course, the cunning Gollum is still after "my precious."

The strategy and tactics you choose are up to you: You can follow the path used in the book, leading to the legendary battle at Minas Tirith, or go off on a completely different track. That's the real beauty of this game. The world is so large and diverse that there are dozens, if not hundreds, of winning strategies. —RICHARD SHEFFIELD

Entertainment News

The Latest Scoop on Games

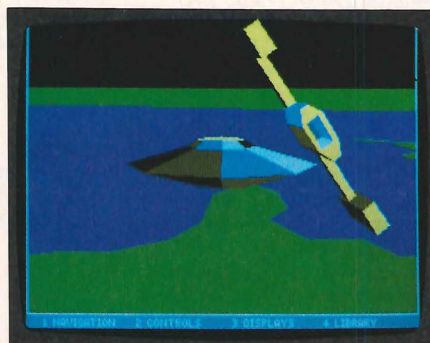
BY RICHARD G. SHEFFIELD



SUBLOGIC RESURFACES.

The SubLogic Corporation, which brought you *Flight Simulator* and a bevy of compatible scenery disks, has been quiet for a while. But now, after a serious restructuring, the company has resurfaced to once again strike fear into the hearts of its competitors.

The company is releasing five new simulations almost back to back. *Thunderchopper* (48K Apple, C 64, 256K IBM PC, Scenery Disk compatible; \$40) will answer the many requests for a helicopter simulation. *Scenery Disk #9* (512K Amiga, 512K



The UFO returns to the mother ship to trade fuel for food and supplies.

Atari ST, 256K IBM, 128K Mac; \$30) provides detailed scenery for Microsoft *Flight Simulator* fans from the St. Louis, Cincinnati, and Chicago areas. If you look closely around Champaign, Illinois, you just might find subLogic's headquarters and the designers' homes. *Hawaiian Odyssey* (planned for Amiga, Apple, Atari ST, C64, IBM PC, Macintosh) will be the company's first adventure disk. If you want to sightsee in a new way, you can fly into one of the volca-

RICHARD G. SHEFFIELD is a freelance writer based in Atlanta, Georgia, and has written several books on computer games. He is replacing Jim Phelan as the Entertainment News columnist.

noes and be "shifted" into another reality. You will see many strange scenery details that subLogic has developed over the years. You also search the islands for the Secret of the Goddess Pele. The *Facilities Locator Disk* (256K IBM PC; \$40) has been requested by many Microsoft *Flight Simulator* fans. This menu-driven program will attach itself to FS v3.0 and allow you to move quickly to any airport you desire without your having to know the map coordinates.

UFO: The Original Extraterrestrial Vehicle Simulator (512K IBM PC, Scenery Disk Compatible; \$50) is a real departure from reality. You fly a UFO to the ends of the earth in search of fuel for the mother ship. Futuristic instruments, tractor beams, and physics-defying flight modes all make this one sound like a lot of fun. Later this year, subLogic is expected to release a disk containing three more light aircraft for *Flight Simulator*, an instrument disk with instrument navigation information for the entire United States, and a realistic flight yoke with a separate T-handle throttle and optional rudder pedal. Also in the works are two more "top secret" projects. Could *Jet v4.0* be far away?

SPIES, SYNTHETICS, AND SUPER SOUND. Roberta Williams, of *Kings Quest* fame, is currently working on a game that's a cross between an Agatha Christie mystery and a Mel Brooks comedy. *The Colonel's Bequest* (512K IBM PC; \$60). Also planned for Apple IIGS, Atari ST, Amiga, and Macintosh) will be set in New Orleans in the 1920s, and, like *Kings Quest IV*, it will feature a female lead. Jim Walls (*Police Quest*) is finishing up a spy-adventure project called *Code Name: Iceman* (IBM PC 512K; \$60). As a member of the U.S. Navy's elite SEAL team, you must rescue a kidnapped American ambassador from North Africa. *Iceman* should be out by Christmas.

For Larry Laffer fans, *Leisure Suit Larry III* (512K IBM PC; \$60) should also hit the streets by Christmas. This one will feature Polyester Patty, who'll give you a woman's perspective on Larry's crazy world. Another major project in the works is based on the King Arthur legend. Following the story very closely, you must travel through the Holy Lands in search of the Holy Grail.

All of the above titles should be out early winter, certainly in time for Christmas. They will support the Ad Lib, IBM PC, and Roland MT-32 sound cards for spectacular stereo effects. *Space Quest* fans, check the shelves for *Space Quest III*.

MICROPROSE CRANKS UP RELEASES. The only complaint I've had about MicroProse Software has been the long delay between new titles. Now it looks as if I'll have my hands full for the rest of the year; several

new releases are planned. By the time you read this, the long-awaited IBM PC version of *Red Storm Rising* (256K IBM PC; \$55) should finally be out. Based on Tom Clancy's best-seller about World War III, this nuclear attack sub simulation skillfully blends gripping combat action with plot continuity between battles.

Paragon Software, a division of MicroProse, will have introduced computerized comic books with the May release of *The Amazing Spider-Man and Captain America in Dr. Doom's Revenge* (C 64, 256K IBM PC; \$40-\$45). Great graphics in the comic-book-panel format lead you through the story, and then you take over to fight some of Marvel's most famous villains in arcade-like action. An original Marvel comic book is included to set the stage for the game; it is sure to become a collector's item. Another IBM PC adventure based on the X-Men is set for release this fall.

The long-rumored MicroProse tank simulation will also be released this fall. Titled *M1 Tank Platoon* (384K IBM PC; no price available at press time), it will be the first real-time tank game to realistically simulate heavy armored action. Other tank simulators have only one tank, but in accordance with current military doctrine, *M1 Tank Platoon* battles are fought with groups of four tanks. The terrain is also different from other similar releases. No more "parking lot" battles—rolling hills will be the setting. Each tank will have four positions to man, giving you 16 to choose from. You will also be able to converse with nonplayer characters to call in artillery support, air strikes, infantry support, helicopter attacks, and more.

More big news is that after selling more than half a million copies, *F-15 Strike Eagle* is being updated. *F-15 Strike Eagle II* (48K Apple, 128K Atari ST, C64, 128K IBM PC; price unavailable at press time) will feature the great 3-D graphics used in *F-19 Stealth Fighter*, as well as some of the geographical databases. This game is designed to be fun and easy to use; it will not compete with *F-19* for intense reality. It will have a Graph-

ics Director feature, which will work much like a TV director does. Many "camera" angles will be available, and the Director automatically will choose the most exciting view of whatever is happening in the battle.

GAME HINTS

Police Quest II: The Vengeance (Sierra On-Line). In this graphic adventure, you help Detective Sonny Bonds put The Death Angel back behind bars.



The shooting range in Police Quest II.

- ★ Be sure to use the shooting range to adjust the sights on your gun, or you'll have no defense if you meet up with Bains.
- ★ Be careful at Cotton Cove. You never know who might be waiting for you.
- ★ Searched through any trash cans lately?
- ★ Search the bottom of Clearwater River as carefully as you can. There may be some evidence hidden there.
- ★ As disgusting as it sounds, you may want to look in the toilets at the airport.
- ★ When you go to the inn, you might want to call the S.W.A.T. team for backup. It would also help to have a search warrant.
- ★ The secret to disarming the bomb is hidden in the hijacker's turban.
- ★ Call Keith on the two-way radio for backup when you meet the mugger.
- ★ Take a tour of the sewer in Steelton.

—GUY THOMAS

Colorado Springs, Colorado



Cap and Spidey will need help if they are to defeat a legion of legendary bad guys in *Dr. Doom's Revenge*.

SEND US YOUR HINTS— AND WIN A FREE GAME!

Don't miss the opportunity to share your original game hints and tips with other readers. Submit entries to Entertainment Editor, HOME-OFFICE COMPUTING, 730 Broadway, New York, NY 10003. Include your name, address, telephone number, a short description of the game, and the brand and model of computer you own. If your tips are selected for publication, we'll award you a new game for your computer. We reserve the right to edit submissions for accuracy, clarity, and length. Unfortunately, we won't be able to acknowledge each submission. ■

HOME OFFICE SHOPPER

If You Are Looking For Ideas To Start A Business, Need Products Or Want Business Services, Read The HOME OFFICE SHOPPER Every Month!

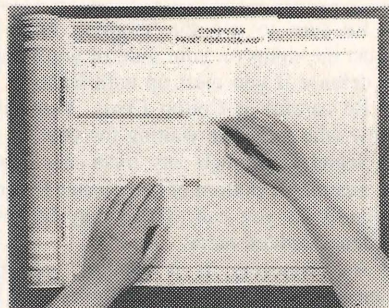
ACCESSORIES

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This easy to use Aid consists of 6 transparent 11 x 15 inch grid overlays accommodating printing needs of 10-12-15 characters per horizontal inch and 6 or 8 lines per vertical inch. These overlays provide PICA and MATRIX printing space bars for 5-6-8-8-17-17-1 and 20 C.P.I.

This positioning Aid is useful because when working with Computers – sooner or later line & column printing locations have to be determined... for example.

- After any design or modifying work has been done on a business form or report layout, the PPA is helpful in conducting a "quick check" on the accuracy of any paste up - form composition - or print spacing.

- Next, after a form/layout has been printed, the Aid is helpful in "proofing" the copy so that any necessary copy corrections can be made.

- **Most importantly – with the PPA you "control your own Printing Destiny."**

THERE IS NO NEED to obtain and rely on special programs for your pre-printed form printing updates—

THERE IS NO NEED to go through the extra time and work to get the "correct grids" from your computer to over print on the pre-defined forms you're working on to help in finding the proper line and column print positions—

With the PPA the grid spacing is always there for you to use – all you do is read the answers from the grid readings and set your cursor directly to your form filling print locations.

One person covered the subject very well by simply saying...
"The Print Position Aid is a very useful tool for me to have because it helps me in my work."

The PPA, which can be used with any printer is priced at \$49.95 plus \$3.90 shipping and handling.
To order just call - **TOLL FREE 1-800-544-0837**
In RI (call collect) 617-444-3833

Computing Aids, Inc., PO Box 227, Needham, MA 02192

CIRCLE READER SERVICE 1

Beginning now, HOME OFFICE COMPUTING offers you 2 classified sections to help you target your specific group of buyers. The **HOME OFFICE SHOPPER** section targets buyers who purchase Home Office products for specific business use. The general **CLASSIFIED** section targets other buyers in the home. When you place your ad be sure to specify both the section and the category within the section that you want your ad to appear.

The **HOME OFFICE SHOPPER** Categories:

ACCESSORIES
BOOKS/MANUALS/PUBLICATIONS
BULK DISKS FOR SALE
BUSINESS OPPORTUNITIES
BUSINESS SERVICES
COMPUTER PAPER
COMPUTER REPAIR
DATA TRANSFER
FAX MACHINES
FURNITURE
HARDWARE
INSURANCE
MISCELLANEOUS
MODEMS
PAPER
PHONE ACCESSORIES
BUSINESS SOFTWARE
TONER CARTRIDGES

The General **CLASSIFIED** Categories:

ACCESSORIES
BOOKS/MANUALS/PUBLICATIONS
CAMPS
CONSUMERS GOODS
HARDWARE
MISCELLANEOUS
PUBLIC DOMAIN & SHAREWARE
SOFTWARE
USERS' GROUPS
VIDEO GAMES

NEW LINE RATES:

(Effective July 1989 issue)

Prepayment Required

Net cost per line per issue:

1x:\$29.00
3x consecutive:27.00
6x consecutive:26.00
12x consecutive:25.00
\$25 extra per issue for any/all bold print.
Add 25% extra for gray tint.
3-line minimum

To determine number of lines, count 40 characters per line including spaces and punctuation. If you use all caps or bold print, count 36 characters per line. A partial line counts as a whole line.

NEW DISPLAY RATES:

Available Upon Request

NEW DISPLAY RATES:

(Effective July 1989 issue)

Prepayment Required

Net cost per column inch per month:

1x:\$315.00
3x consecutive:290.00
6x consecutive:270.00
12x consecutive:260.00
Add \$50 for Reader Service number for all display ads under 3 column inches.
Column width is 2 3/16".

Figure 10 lines maximum per column inch. Using fewer than 10 lines allows for larger typesizes or graphics. To determine the number of lines, use the same formula as for line ads but subtract 2 characters per line to leave space for a border on all sides. Typesetting is available at no extra charge.

When submitting a camera-ready ad, please indicate if the ad was printed on a laser printer.

TO PLACE YOUR AD:

- Print or type your copy
- Determine the section and the category
- Decide the number of consecutive insertions and calculate amount due
- Include Check/MO/VI/MC and send to:

HOME OFFICE COMPUTING
730 BROADWAY
NEW YORK, NY 10003
ATTENTION: GREG RAPPORT

Or call 212-979-0728 and we will help you plan a cost-effective strategy that benefits you!

DEADLINES:

September6/23/89
October7/25/89
November8/24/89
December9/25/89

All advertisers must submit phone numbers for our records even if the number is not to appear in the ad. All ads with PO Boxes must submit street address for our records.

HOME OFFICE COMPUTING cannot be responsible for the accuracy of description, but will attempt to screen out misleading ads, and reserves the right to reject, edit or cancel any advertisement at any time. Publisher is not liable for ads that are not published.

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DISKETTES MAILERS. All sizes.
Free sample. Free shipping.
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Simply drop in a letter, 1-3 sheets stapled or unstapled for a perfect fold everytime.

List \$279.00 — 30 Day Money Back Guarantee

NI Machines for Business

20505 EAST VALLEY BLVD., WALNUT, CA 91789

Call: 800-255-3713

For Your Nearest Dealer



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BOOKS, MANUALS PUBLICATIONS

COMPUTERS MADE EASY

Satisfaction Guaranteed Books on understanding and using computers. A variety of topics are available. Write now for a free brochure: Computer Publishing Enterprises, Dept H017, Box 23478, San Diego, CA 92123

NEED HELP WRITING business materials?

Free brochure. Call 1-800-359-0322;
Dan Morgan, PO Box 1521, Lombard, IL 60148

HOME OFFICE SHOPPER

If You Are Looking For Ideas To Start A Business, Need Products Or Want Business Services, Read The HOME OFFICE SHOPPER Every Month!

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Note quite... But we can save you hundreds of \$\$\$!

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takes the mystery out of prices when you buy your computer or related equipment. Computers, printers, drives, monitors, boards, software, AND MORE! Thousands of listings. \$9.95 for trial issue or \$99.95 for 12 month subscription.

Cybertrol Systems, Inc.

Box 70391, Bellevue, WA 98007. 1-800-552-4459.

BUSINESS OPPORTUNITIES

GUARANTEED BUSINESS OPPORTUNITIES

with your PC. I've done it—let me show you how. FREE details! Rush \$1 (P&H) to DLMW, Box 394, Bronxville, NY 10708

Work-at-Home. 1000 companies hiring

homeworkers-computer & other skills

Specific job leads - Who's hiring-pay-benefits. Send 25¢ stamp. Facts: 2102 Whispering, Round Rock, TX 78664

HOW TO MOONLIGHT WITH COMPUTER

Free information. Must reading for everyone wanting their own business. AICTF, Box 2615, Pasadena, CA 91102

Use Power Investor Strategies-to make money in the securities market. Our Ted Spread and S&P 100 software strategies for IBM & Apple give you the potential for large profits. FAST!

GUARANTEED! Send for brochure. Business Logic, 49 Springdale Blvd, Guelph, ON, CANADA N1H 7S9

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SUBSCRIBE TO COMPU-VENTURE.

SEND \$2./sample or \$12.00/6 issues. MSC, Box 1039-F6, MT. Vernon, NY 10551

\$97,500 yearly "hidden in your computer?"

Yes! Free report

Simpson, 771C, Battle Ground, WA 98604-0771

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for information brokers, desktop publishers and other information entrepreneurs. Trial subscription, \$1. THE WHOLE WORK CATALOG, Box 297HD, Boulder, CO 80306

SENSATIONAL OPPORTUNITY! F/PT-CONT. EMPLOY GRD. FLOOR! UNIQUE MLM SVC! DETAILS: \$1. FMJ, BOX 10696, OAKLAND, CA 94610

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Small Investment—Large Profit
For Details: Shareware Dist., PO Box 187, Moravian Falls, NC 28654-0187. 919-921-2256.

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MAKE MONEY WITH YOUR HOME COMPUTER!

New book describes hundreds of ideas and tips NEVER SEEN IN PRINT BEFORE. Don't miss it! FREE Info TODAY! InfoResources, 270 Curtin Ave. #H7A, W. Islip, NY 11795

Your BUSINESS OPPORTUNITY advertisement could be seen by the

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You get a guaranteed 100% audience of the fastest growing segment of buyers today. Call 212-979-0728 today to place your ad.

START A HOMEBASED BUSINESS WITH YOUR PC NEW RELEASE. Send name and address to Autofax, 1009 NE 4th, Moore, OK 73160

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No Capital or Experience necessary.

Join the list of Successful beginners.

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Mail + You = Business Opportunity

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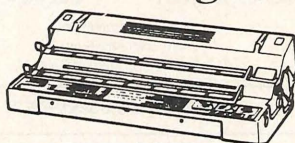
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CIRCLE READER SERVICE 3

AMSTRAD

**PORTABLE IBM-COMPATIBLE
PC-XT TURBO LAPTOP**

LIQUIDATION

FACTORY NEW! FACTORY PERFECT!



- 8088 16-bit processor, turbo-speed 8MHz.
- 512K RAM. • Two 720K 3-1/2" disk drives.
- 100% IBM compatible. • Full-size keyboard.
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- 640 x 200 pixel supertwist LCD panel supports all CGA & MDA graphics and text modes. • Five XT expansion slots.
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- Microsoft MS-DOS 3.3 operating system.
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Due to a manufacturer's closeout, we've received a large inventory of these AMSTRAD Computers. As a result, we can now offer them to you at **GREAT SAVINGS!**

Manufacturer's
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DAMARK PRICE:

\$599

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Insured Ship/Hand.: \$10.00

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Address _____

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Exp. Date _____ Ph. # () _____

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Computer Disks: 5.25" - 25/62¢ each, 50/59¢ each 100/55¢ each; 3.5" - 25/\$1.95 each, 50/\$1.90 each Add \$1.00 per 25 disks for postage. Washington residents add 7.8% sales tax. Remit: C & C Marketing, PO Box 111239, Tacoma, WA 98411

DS/DD Floppy Diskettes w/Tyvec Sleeves, Labels and Tabs. American Made! \$45.00 per 100 + \$3.50 s/h. MC/VI ok. Powermaxx Computer Systems 1587 US Route 68 North, Xenia, OH 45385. 513-372-2257 after 4PM EDT (Order Line Recorded 24hrs)

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NEW MACHINES WITH FACTORY WARRANTY

MURATA M1200	\$739	SHARP FO-300	\$1139
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Don't overpay for a new FAX machine, buy wholesale direct and save. Local Service and support available. SATISFACTION IS GUARANTEED. CALL A FAX EXPERT AT MCS 800 669-1357 MN 612 831-4250



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SHARP FAX FO-220

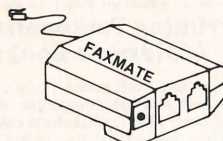
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Faxmate 168 automatically switches incoming fax and voice calls to either your fax machine or phone/answering machine.

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ONLY \$79.95!

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COMPUTERS & CELLULAR PHONES
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**The complete, mini
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Plugs into standard phonejack.
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Re-ink your printer ribbons quickly and easily. Do all cartridge ribbons with just one inker! For crisp, black professional print since 1982. Choose from 3 models. Prices start at just \$39.50

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HOME OFFICE SHOPPER

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Computer Trends 800-544-2597

CIRCLE READER SERVICE 11

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TIMESLIPS III can track, bill and analyze all the time that used to vanish each billing period. It can help you increase your billable hours by as much as 25% and ... it's even fun to use. **N**ORTHEDGE TIMESLIPS III has a built-in stopwatch, customizable bill formats, full accounts receivables and a custom report generator. It also produces client mailing labels, rolex cards and file folder labels.

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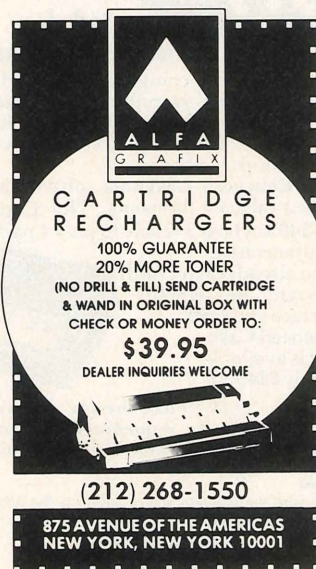
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OFFERS HOME MAIL ORDER BUSINESS ALL THE COMPUTING ROUTINES IT NEEDS. \$10 DEMO WEINER CORP. 1700 CATALINA AVE.,

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20% MORE TONER
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\$39.95
DEALER INQUIRIES WELCOME

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NEW YORK, NEW YORK 10001**

CIRCLE READER SERVICE 13

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TI99/4A Owners: MICROpendium is a monthly only for the TI (since 2/84) \$20/year or \$2.50 for sample. Box 1343. Round Rock, TX 78680, 512-255-1512

COMPUTER BOOKS CATALOG!

Over 300 titles. "Using 1-2-3 Special Edition" "Running MS-DOS 4th Edition" and more. Catalog \$2. (refundable with order) or \$ASE for top 20 best sellers. Doyle Systems, 12178 Greenspoint Dr. #318, Houston, TX 77060.

MS-DOS USERS—Easier, Faster Performance through keyboard HOW-TO book. \$9.95 or info: Midam, 1325 No. C, Broken Bow, NE 68822

HARDWARE

IBM PC Jr. OWNERS Free catalog of products. Glass Business Equipment. 505-865-9878 PO Box 287, Highway 47, Peralta, NM 87042.

COMMODORE/AMIGA CHIPS, PARTS, DIAGNOSTICS, REPAIRS. (low cost C-64-\$49.95 + UPS). Heavy Duty C-64 Power Supply-\$28 + UPS. Kasara Microsystems (div. of QEP) 1-800-248-2983.

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- * Modems, Int. & External
- * Joysticks, Serial Cables
- * PCjr Network cards
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- Switching Boxes for Monitors or Serial Devices
- Full Size Keyboards & Numeric Keypads
- Keyboard, Modem, Printer, and Monitor Cables
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- Game Cartridges, and Other Software

Plus much much more. Call, write, or circle our reader service number for a FREE catalog of PCjr add-on products.

PC Enterprises

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1-800-922-PCJR or (201) 280-0025

CIRCLE READER SERVICE 14

CLASSIFIED

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Computers Bx 6482 San Pedro Ca. 90732

FOR FREE/TO SWAP

FREE PD SOFTWARE (C-64). Send One stamp
for catalog or \$2 for catalog & 30 samples
(Refundable). RVH Publications, 4291
Holland Rd. Suite #562-F Va Beach. VA 23452

MUSIC

FINALLY AN AFFORDABLE MIDI STUDIO \$399

includes:

• Keyboard • Interface • Software

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Interface is Midi compatible with over
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MT-540 keyboard is able to play 4 parts
simultaneously.
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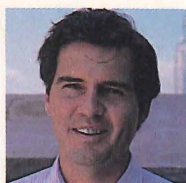
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CIRCLE READER SERVICE 24

An MS-DOS User Eyes The Mac

BY NICK SULLIVAN



I had a dream the other night. I was watching a Mac. It was like being at the movies. Images kept flashing on the screen. When I saw something I didn't like,

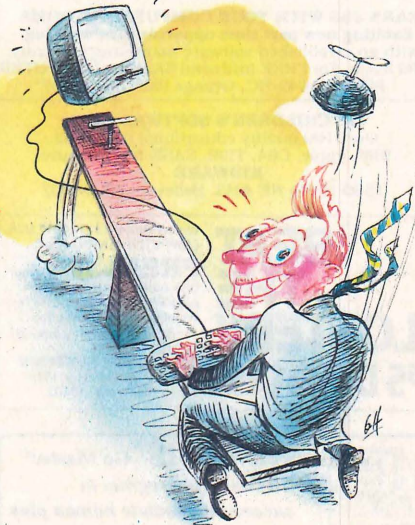
I'd just click the mouse button and more images would stream past. It was effortless, like lying in bed and clicking a TV with a remote. Then I woke up in the real world and went to work the old-fashioned way—on my MS-DOS computer.

The week before, I had played with the new Macintosh SE/30 (see review in "Two New Macs," page 48), the first time I had spent any significant time on a Mac since the original 128K model came out in 1984. At that point I was an Apple IIe user looking for a more powerful machine. I bought a Leading Edge Model D because it offered power at a good price and the security of the MS-DOS industry standard. The only time I ever regretted my choice was when Apple introduced *HyperCard*, but my remorse vanished when I realized how much memory and speed it takes to make the program function well.

After four years in the MS-DOS trenches, I find the Mac truly dreamlike, with its sounds and pictures. These stimuli involve you with the machine and with your work. Because all Mac software generates the same prompts and responses, operation is much more fluid than with MS-DOS software. And when running a well-designed *HyperCard* stack, the Mac's interactivity leaves MS-DOS in the dust.

A Mac gives me a greater sense of power and control than an MS-DOS machine does. I love being able to quickly mark a section of text, change the typeface, and watch it transform. Abracadabra! I love the ability to size and move windows around the screen, to cut and paste between any two programs, and to quickly move to the middle or end of a file by just moving the arrow on the edge of the window. The information you put into a Mac turns into silly putty; the information you put into an MS-DOS machine turns into concrete.

The ability to store a grab bag of pop-up programs (called desk accessories on the Mac) is also a big advantage. *Acta*, the pop-up outliner for the Mac, would be very useful. I now use *SideKick* for notes, phone numbers, and appointments on my Leading Edge, but when adding other memory-resident programs, I've run into memory limita-



Cynics say that computers are not meant to be playthings. But fun at work is important because it increases productivity and creativity.

tions or software conflicts.

The Mac is more fun to use than an MS-DOS machine—because of the pictures and sounds, and because the mouse amounts to a remote-control device that encourages you to roam and experiment. Cynics will say that computers are not meant to be playthings, but I believe that fun at work is important—it increases productivity and creativity.

It's now clear that the original design concept of the Mac was rock solid, and it has been improved every year. By contrast, the MS-DOS world is struggling to overcome a basic design that makes high-speed graphical computing difficult, though some of the new systems do make it possible.

These truths about the Mac have been self-evident for some time. I have just chosen to ignore them because Apple's high prices—especially when contrasted with its old "computer-for-the-rest-of-us" pretense—have been hard to stomach. I just want to type; I don't want to pay a premium to join an elitist club. Isn't it ironic, that Steve Jobs, who wanted to make a Model T

computer for the masses, ended up making an elitist status symbol? And that IBM, which has traditionally favored corporations over consumers, forged the standard that the masses adopted?

But Apple softened its position on prices last year in response to slowing sales on its high-priced models. The company was offering rebates that made the Plus and SE models more competitive with 286 MS-DOS machines, and the SE/30 and II models more competitive with 386 MS-DOS machines. If you take an MS-DOS computer and a Mac and equip them with the same amount of memory, the same size hard-disk drive, and the same speed, the MS-DOS computer will still be cheaper because there's more price competition in that arena. But the drastic price discrepancy is gone, and I'd say that the small premium you now pay for a Mac is worth it, given the potential increased productivity.

What I want to do—and can't now—is actively work with my computer while it's uploading or printing out a file. I print and upload many times a day, which means downtime (to use an old mainframe term).

I could accomplish this goal with a 286 or 386 MS-DOS computer and a program such as *Desqview*, which allows limited multitasking; but I wouldn't buy a 286, because the 386 is better designed for multitasking and is faster. Or I could buy a Macintosh SE/30 and use *MultiFinder*, which allows background printing and file transfers. The 386s and the Mac SE/30 cost around \$5,000 each (see price comparisons in "Two New Macs," page 48). If I were shopping for a computer right now, I'd take the Mac.

Until recently—in fact, until just now—I never thought I'd say that. But things change. The Mac has come down out of Never-Never Land and joined the real world. Its new "Superdrive" disk drive even reads 3.5-inch MS-DOS data disks. And while confusion reigns supreme in the supposedly standardized MS-DOS world (do you use DOS or OS/2? *Presentation Manager*, *Windows*, or *Desqview*? MCA or EISA? EGA or VGA?), the Mac world is cut-and-dried.

My situation is cut-and-dried, too. It's not worth \$5,000 to me to gain a few minutes a day at my computer. I can make phone calls or take a break when the computer is tied up. So I'm just going to keep riding my old warhorse until it falls over. But after my dreamlike adventure with the Mac, I won't much enjoy the ride. ■

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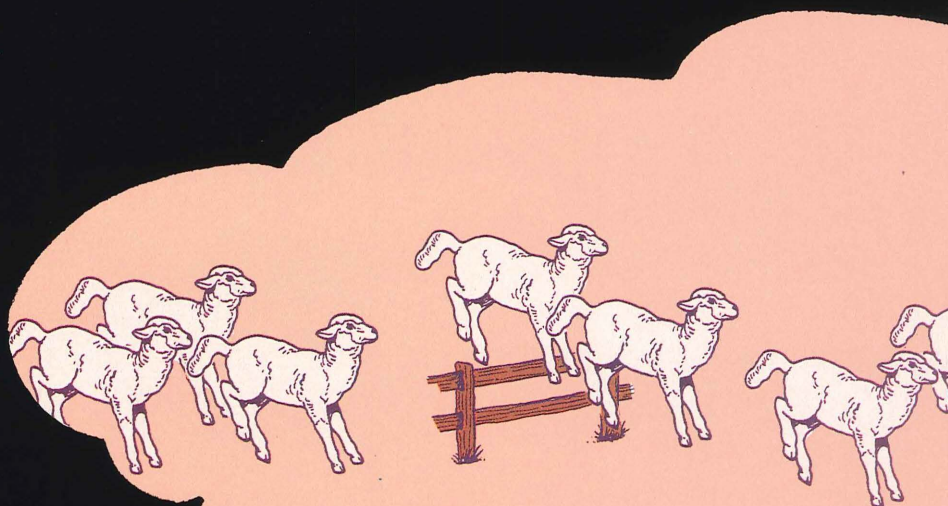
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